

In view of the continued demand for back numbers of the "Englishman" containing accounts of the great earthquake of the 12th of June, 1897, it has been thought desirable to collect the various reports in the form of a volume, which will be a handy and permanent record of the greatest disaster of the kind that has visited India in historical times. The reports have been brought together in chronological order, so that it may be possible to follow the various phases of the occurrence as they became known from day to day. A glance at the later reports will show that, instead of being exaggerated, as was suggested at one time, the appalling catastrophe far exceeded the earlier reports. According to the Chief Commissioner of Assam, 950 persons were killed in the Cherrapunji Hills and the Sylhet District, while the damage done to property in Calcutta alone cannot be set down at less than a million sterling. The volume includes full reports of the disaster from all parts of Bengal and Assam, articles from the "Englishman," letters from correspondents, telegrams, detailed accounts of the destruction of Shillong, and the great landslips in the Cherra Hills, and official estimates of damage to property.

THE EARTHQUAKE.

GREAT DESTRUCTION OF HOUSE PROPERTY IN CALCUTTA

(The Englishman, Monday, June 14, 1897)

It is impossible as yet to speak with accuracy of the great earthquake which passed over the entire breadth of Northern India on Saturday evening, but there can be little doubt that it exceeds in extent and intensity any other visitation of the kind in the present generation. From our telegrams it appears that the wave was felt in greater or less force in Manipur, Assam, Bengal, and Bombay, while some idea of the breadth of its path may be gathered from the fact that on one side it touched Behar and the Central Provinces, and on the other places as far apart as Darjiling and Simla. The reports would seem to show that the force of the seismic wave was as severely felt in Darjiling as in Calcutta, and many incidents from the districts are eloquent of proof of the violence of the shock and the state of panic to which the people in many parts of the country were reduced. A correspondent at Kasba, in Tippera, telegraphs that the wave was severely felt over a range of more than a hundred miles on the Assam-Bengal Railway, and that a train was over-turned at Shamchurnagar while a mixed passenger train was "derailed and stuck" at Mantollah. An earthquake which destroys bridges and derails trains may well be dreaded in the crowded haunts of men, and the residents of Calcutta have reason to be thankful that the City of Palaces did not collapse before it like a castle of cards.

No doubt, the city has suffered severely—how severely we shall not be able to tell even approximately for some time to come. But so violent and long-continued were the undulations

of the earth that the wonder is the great majority of the solid massive structures which have won Calcutta its distinctive name among cities were not shaken into ruins. The large proportion of the houses have sustained more or less serious damage, and many of our public buildings, such as the Cathedral and the Town Hall, are badly maimed. But the sight of huge mountains of masonry like Government Houses, the Secretariat offices, and the High Court, rocking and rolling like ships at sea might well be expected to be followed by wholesale collapse. The alarming spectacle was certainly a good and sufficient reason for the awe and dread which it inspired. On the whole, in view of the terrific nature of the visitation, the conduct of the population was remarkably firm and cool. In some of the native and mixed parts of the town, where the crowding of ricketty houses constituted a special danger, there was something like momentary panic, and, of course, all over the town the people fled in all varieties and stages of undress from the immediate danger of cracking walls and trembling rafters. Perhaps the most remarkable sight was that of the heterogeneous groups in the middle of the streets gazing up at the shaking walls and casting awful glances at the ground as it rocked under their feet. That many cried out in terror and agony of mind will be little cause for surprise, at least to those who have shared their startling experience of encompassing, irresistible danger and complete physical helplessness.

Unhappily, visitations of the kind are not unknown in Calcutta. There are many who will be able to recall the earthquake of December, 1888, and the still more pronounced one of 14th July, 1885. Neither of these shocks, however, was nearly so severe as that of Saturday, although they have left their lasting marks on the buildings of the city. It is curious to observe that many of the old rents and fissures caused by the former earthquake have been in no way affected by the enormous strain of the present wave. On the front of what used to be the art section of the Imperial Museum there is a great crack that have been known

to half the people of Calcutta for years, and the common remark has been that the next shock would complete the mischief. Yet, to-day, it is exactly in the condition it was in before the earthquake, whereas at a distance of a few yards there is a new and formidable ramp in the northern arch of the great solid entrance gateway of the Museum. Indeed, the freaks and eccentricities of the earthquake are as great as those of lightning. Still, it is evident, on the whole, that the new strong buildings in Calcutta have had the best of it, and that disaster has fallen most heavily on old, neglected or patched-up property. However, the exceptions are numerous. Mr. Ezru's new verandah is gone; and Dr. Feldstein's house, which is one of the worst collapses, had been recently overhauled, the heavy verandah being supported upon iron beams. At present, it is almost impossible to form anything like an accurate idea of the extent of the damage done in Calcutta. The reports to be complete would have to take note of almost every house. As they stand, the reports are little more than categories of houses and details of damage. It may be said with perfect accuracy that the earthquake left Calcutta enveloped in fallen stucco and plaster, and this is by no means the simple thing it appears to those who are unacquainted with our Eastern style of building. The plaster that rained down from the shaking buildings all over the town was no trifle; it fell in solid pieces, often several yards long, and weighing many cwt. Masses of this material, as hard as stone, hurtling through the air, constituted a distinct danger to life and limb. One of the pitiful aspects of the disaster is the state of homeless misery to which it has brought so many poor Europeans, Eurasians and Natives. In view of the crying needs of this class, it may be worth considering whether the money which it is proposed to devote to a Jubilee dinner might not be disposed to better purpose in the relief of present suffering. Among the many who have been driven from their homes by the earthquake we must now include the soldiers in Fort William who have been sent under canvas until the safety of the barracks is assured. It is not, perhaps, a

pleasant association of ideas, but it is probable that the visitation of Saturday will come to be known popularly as the Jubilee earthquake. In point of extent and severity, it is entitled to any titular distinction.

CALAMITY

COUNTING THE COST OF THE DISASTER

(The Englishman, Tuesday, June 15 1897)

It is now apparent that the earthquake was even more widespread than was supposed. Our later telegrams cover an area that roughly corresponds with the whole of Northern India. The shock was severely felt at Kohima, in Manipur, on the north east frontier, and slightly at Coconada, on the East Coast Railway, in the Madras Presidency. Along the line of the Himalayas it seems to have been as strong as in the central plain of India, and at no place does it appear to have been more severely felt than at Darjiling. On the whole, there is a remarkable agreement in the reports from widely separated centres as to the main features of the earthquake, and this contrasts in a striking manner with the usual experience in regard to natural phenomena. It would be vain to look for absolute unanimity, and already there are indications of the curious conflict of evidence with which we are only too well accustomed. Correspondents have written to us, for instance, denying the statement that the shock was heralded by a loud rumbling noise but it may be laid down as undeniable that such a noise was heard. It is not, perhaps, difficult to account for the fact that many did not hear the rumbling, for it is always difficult to distinguish sounds which come unexpectedly, and many of those who were indoors at the time probably had not their attention called to the shock until the noise had passed. One of the curious circumstances which have been remarked is that persons riding and driving at the time did not observe anything unusual until their attention was attracted by the swaying buildings. The motion of the ground was not felt at all, and as far as

individual sensations went there might have been no earthquake at all. Another point on which there has been some diversity of statement is the state of the Hughli. An imaginative picture was drawn of a boro on the river, and of crowds of men saying puja on the banks. Steamers tugged viciously at their moorings or lurching heavily against the Jetties. No doubt the artist meant well, but the scene which he conjured up was a pure figment. The river was almost without a ripple, and those on board vessels were in complete ignorance of what was happening. Indeed, the safest place of refuge—or rather the only place of safety—on Saturday was on board a vessel in the river.

On the occasion of former earthquakes, we have seen reports of the earth cracking and of water and sand or mud coming forth. Doubt is generally thrown on such statements which are often made loosely by persons who are not trained observers. On the present occasion we have been told of this happening in various parts of the country, and if any doubt existed on the subject it must be dispelled by the telegram from Manipur, which is thoroughly reliable in every particular. Our correspondent states that long cracks appeared in the ground, extending for hundreds of yards, wide enough to put one's hand into. These fissures ran from south east to north west, and this may be taken as an indication of the direction of the wave. From the Chittagong district a dramatic incident of a fearful nature is reported. The local post office was swallowed up bodily in the earth. Happily, there was no person in it at the time, but the occurrence remains one of the most terrifying aspects of the great earthquake of Lisbon of 1755. On the whole, however, the loss of life caused by the present earthquake has been astonishingly small, considering the severity of the shock and its duration. As far as can be ascertained the casualties in Calcutta are confined to a few native houses, and do not exceed twelve, although it is thought not unlikely that this number may yet be increased when the full reports are received. Had the shock occurred at

night, like that of 1858, there can be little doubt that it would have been attended with great loss of life, but happening in the afternoon, people were able to leave their houses rapidly, before the danger became imminent.

Since the occurrence of the earthquake, the heavy rain that has fallen has considerably increased the danger from falling houses, to say nothing of adding to the discomfort of the many families which have been suddenly deprived of their homes. It is no exaggeration to say that the disaster has reduced thousands of middle class Europeans and Eurasians to a most pitiable plight. The Natives, occupying one storeyed houses, have almost entirely escaped, and the distress is practically confined to the middle class Eurasians, who are unable to find house-room in any part of the town. It would be difficult to describe the miserable state of these poor people in too strong terms, and it certainly seems as if a public duty rested with the leaders of the community to organise some form of relief. We would suggest that, as a temporary measure, the Government of India offices, which are standing empty, might be utilised for the purpose of housing the crowds who are compelled to pass their nights and days in the open air, exposed to the inclemency of a rainy season. The Government might well give its consent to such a benevolent arrangement, which would cost nothing and which would relieve the misery and suffering of the class with whom the earthquake has dealt hardest of all. Let us remember that these people are themselves powerless to mitigate the horrors of their position.

THE EARTHQUAKE IN THE MOFFUSSIL

(The Englishman, Wednesday, June 16, 1897)

The third day after the earthquake brings intelligence which shows clearly that the absolute damage done in the mofussil is fully equal to that in Calcutta itself and its immediate neighbourhood, and that its subsequent effects will probably be far more severely felt over a large number of out-

stations than they are likely to be in this city. Especially in Eastern Bengal and in the north of Assam the havoc appears to have been wholesale and universal. In many places no proper house was left standing and their inhabitants were glad to take refuge in their servants' quarters. This was notably the case at Jamalpur, at Dacca, and Murshidabad, whence several fatalities are reported, together with a number of hair breadth escapes. It is difficult to estimate the extent of the ruin at Jamalpur, but when we remember that it is the great manufacturing depôt of the East Indian Railway, and that four workshops were either partially or totally wrecked, it is evident that the damage will run away with a great deal of money before it is repaired.

This station also appears to have been the scene of more than one of those almost miraculous escapes which one reads about. At Murshidabad, unfortunately, there were fatalities although so far the immunity from any such catastrophe of most of the affected districts is no less a matter for congratulation than surprise. Dr Price, Civil Surgeon of Murshidabad, has been rendered houseless, and the same fate has overtaken practically the whole of the chief officials at Krishnagar. From various other districts throughout Bengal accounts of a similar tenor flow in incessantly. The Mansiff's Court house down, the Magistrate's house wrecked, and Magistrate and his assistant driven into tents, the Meteorological Office damaged, and other reports all tell the same tale—it is the largest and most important buildings that have felt the shock most severely. On the other hand, those who happened to be travelling, on the Railway especially, experienced none of the most unpleasant and alarming phenomena, and unless their line of communications was blocked, as was the case with most passengers from Dargiling and Assam, were able to go on to their journeys and in almost total unconsciousness of the fact of the upheaval. Where ignorance is bliss, we have always been told, it is folly to be wise, and this may emphatically be affirmed of the Dargiling Himalayan

Railway, which was assured on Saturday night by telegram that its line was intact. It was subsequently stated, however, that the cart road at Sukna was ' riven with chasms ' This may only be an inflated way of saying that the road is covered with cracks, but if there is any accuracy in the statement the railway should be looked to. Apropos of chasms several telegrams which we publish to day display remarkable unanimity in speaking of the sand and water which were ejected from the earthquake cracks. One correspondent describes them picturesquely as " mud volcanoes," and says that they spouted to a height of three or four feet. Another account makes them resemble miniature fountains, but in no case does it appear that the temperature mud and water has been taken.

From Kaliganj comes the only instance so far, in which the shock was felt to any appreciable extent on the water. The Rivers Steam Navigation Company's steamer, the Bengal, was mooring there on Saturday afternoon, when her commander noticed a vibration so severe and prolonged that several articles were broken on board. The phenomenon cannot be accounted for on the supposition that the shock was communicated to the vessel from the shore, for the report goes on to say that the river was in a turmoil during the time that the earthquake lasted. This experience is so opposed to that of all the other observers who were at sea at the time of the shock, that it would be interesting to know whether it can be endorsed by anyone else similarly situated. Rightly or wrongly many people have got it into their heads that there are more earthquakes to follow, and are working themselves into that state of hysterical agitation which is the most prominent feature of a panic. If another shock does come the scenes of terror and confusion which will be enacted will surpass anything that has yet been seen. We have not taken the trouble to ascertain whether the egregiously Zaddial has predicted this occurrence or not, but we cannot admire the strength of mind of those who are eagerly searching for his latest edition in order

that they may either gratify an idle curiosity, or foster a vague and superstitious dread. The disturbance has by the way offered a good test of a more reliable seismographic authority than Mr Zadkiel or any of his kind. The earthquake was recorded on Saturday evening on the other side of the globe by the exquisitely sensitive machine which has been contrived by French ingenuity, and which has, it is stated, recorded seismic upheavals in the Isle of Wight simultaneously with their actual occurrence in Japan. The fact that the Jubilee earthquake was cognisant to the servants of Grenoble before the news could be flashed to Europe by telegram is of far greater interest and importance than the extravagances of Zadkiel. It would actually seem, however, as though some people were willing to forget the whole of the prophet's absurd calendar on the supposition that in this solitary instance he has blundered upon a "straight" tip.

A CHAPTER OF HORRORS

(The Englishman, Thursday, June 17, 1897)

One of the results of the earthquake has been an extensive interruption of telegraphic communication in various parts of the country. For several days Assam has been almost entirely cut off from the outer world, and it has only been possible to ascertain how far the province has suffered in a very partial manner. The mere fact that no news was forthcoming from many of the most important centres had given rise to serious apprehension, and now that news is at last to hand, it is evident that the actual experience of the province far exceeds the worst anticipations. A telegram from Shillong reports the destruction of all the masonry buildings and the lamentable death of Mr McCabe, C S, Inspector General of Police. Mr McCabe was one of the most distinguished officers of Government in this part of India, and his unrivalled knowledge of the primitive people

on the North East frontier had gained for him a 'high reputation in geographical circles in Europe. The Chief Commissioner, we are informed, deeply deplores his loss and the country at large will mourn the man who has braved a thousand perils among savage tribes and has now fallen a victim to the earthquake. No other deaths of Europeans are reported from Shillong, but Mr Cotton, the Chief Commissioner, with Mrs Cotton, are reported to have had a narrow escape. Many deaths are said to have taken place in the Secretariat Press, the military lines, and the bazar, and ladies and children here, as in so many places, have suffered greatly amid the horrors of Saturday's disaster.

One of the added miseries of the crisis everywhere has been the cruel suspense of those who had relatives and friends in distant places, and who were unable to ascertain their fate. At the headquarters of the Assam Government, also, postal and telegraphic communication was interrupted, and terrible must have been the anxiety of the many families, who are summering at Shillong as to the welfare of husbands and fathers in the plains. Happily, as far as our information yet extends, the tale of casualties is small. Indeed, as one reads the record of the disaster, it becomes an increasing matter of surprise that it has not been accompanied by a vast sacrifice of human life. So far, the most serious catastrophe is reported from Goalpara, where a tidal wave destroyed the bazar, and sixty lives have been lost. At Tezpur, Mungaldye, Gauhati, Dhubri, Jaitrapur, and other places the destruction of property has been very serious and at most of these centres all pucca buildings have been shaken to pieces or levelled with the ground. At Dhubri some natives have been killed, and at Gauhati, the Europeans spent the night on the mail steamer. The whole country, in short, has been devastated, and the loss of property is incalculable. We can only be thankful that we have not at the same time to lament the loss of a large proportion of the population. That widespread suffering must follow close upon the catastrophe is inevitable, but at least, the loss of life is

comparatively slight in relation to the havoc that has been wrought over such an area. The reason of this would appear to be two-fold. The preliminary tremors gave the people warning, and the disaster happening in daylight made escape more easy. To those who remember the earthquake of 1883, it must be evident that had the present calamity occurred at night the death list would have been of very different dimensions. On the former occasion, the people at Howrah and elsewhere were completely panic stricken, and seemed to lose the instinct of self-preservation. They gathered in large crowds in the streets after the danger was over, and nothing could induce them to return to their houses for the night. On the whole, the conduct of the people on the present occasion offers a striking contrast to the experience of 1883, and to that of the European countries which have been visited by earthquake in recent years. Nothing was witnessed in any part of the country, like the absolute demoralisation that seizes upon the towns and villages in Italy or Greece during such a visitation.

It is too early to deal with the scientific aspects of the disaster, but many interesting circumstances have already been noticed. Nothing, perhaps, is more distinctive of the present earthquake than the extent to which the earth has been riven into fissures. At Parnah, where the wave was felt with great force, cracks were seen over a mile long, and extending from north to south. The banks of the Teesta opened out in many places from an inch to a foot in width. About fifty feet away from the river an opening extends from the river inwards for over 150 yards. It is three inches wide, and out of it water and sand were ejected some three feet high. At Gauhati and Dhubri the roads are fissured for miles, and at the former place the railway has "disappeared." Half a mile north of the Parnah railway station the ground opened out about six inches wide, running east and west for about a quarter of a mile in length, and water was ejected into the air from the crack. From so many places does

the report of these fissures come that there can be no doubt that they are a salient feature of the disaster, and it is equally certain, from the concurrence of testimony that in many instances water issued from the cracks. It is so commonly supposed that earthquake "fountains" are a popular delusion that the fact is more than merely curious. But there are many aspects of the earthquake to be considered when we have received material for a comprehensive survey of the calamity. For the present it must be regarded from the strictly human point of view, as a calamitous visitation, dealing death and destruction and bringing in its train widespread misery and lamentation.

EARTHQUAKE COMPARISONS IN BENGAL

(*The Englishman, Friday, June 18, 1897*)

A reference to our files of a dozen years ago will cause most people to wonder what an Allahabad paper meant the other day by announcing that if there was any form of Nature's violence from which one might have expected Calcutta to be safe it would be an earthquake. "Furious cyclones," added our contemporary, "disastrous storm waves, inundations carrying off tens and hundreds of thousands of human beings, the city of the Gangetic Delta knows too well, but it has been left for this present year of general gloom and misfortune to show that she is also liable to suffer from earthquake." As a matter of fact, Calcutta has been frequently visited by earthquakes. The most recent visitation of any great importance was in 1885. The earliest disaster of the kind of which there is any record was in 1737. And so far from earthquakes being one of the natural shocks from which Calcutta might be expected to be free, the history of past disturbances seems to show that Lower Bengal is peculiarly subject to seismic shocks, and that this province has been visited over and over by earthquakes of varying severity, while Northern and Western India have escaped without a tremor. These remarks are suggested by the fact that the earthquake of 1885 was felt over almost exactly the same area as that of Saturday last, while that of half a cen-

ture ago, to which Mr Bysack in another column refers, seems also to have been local in its character. The fidelity with which the earthquake of 1897 has followed the track of its predecessor is certainly remarkable.

On the first day after the shock of 1895, which took place on Tuesday, July 13, telegrams were received in the *Englishman* office from Serajganj, Parnar, Dujiling, Barisal, Siliguri, Durbhanga, Jalpaiguri, Sylhet and Mymensingh. The next day messages were received from Birbham, Sahibganj, Purnea, Monghyr, Giridih, Kutch Behar and Nawadih. The shock on that occasion, as has already been said, did not last nearly so long as Saturday's. It was felt for about a minute. But it is noticeable that then as now the correspondents who wrote to the papers on the subject agreed in describing it as the severest visitation of its kind during the present century. The narrative of one correspondent that morning—the disturbance took place between a quarter and half past six in Calcutta—might be applied without any change whatever to the events of Saturday. He says "On looking out of doors I found that my neighbours had collected in their compound, and were gazing with pale and fear-stricken faces up at the house, evidently expecting it to fall to pieces. The children had been snatched out of bed, and they were all more or less, men, women and children, scantily dressed. The crows were vociferating loudly and flying about in a state of alarm, evidently impressed with the unusual nature of the occurrence." Other accounts given at that time have a wonderfully familiar ring, treating as they do of massive buildings swaying like ships in a storm, of undulations passing over the ground, of collapse of walls and furniture, and of universal exodus and alarm. Practically the only points on which they differ are that the shocks only lasted about one-fifth of the time occupied by the latest disturbance, and that no lives were lost. The experiences of the districts were very much what they were on Saturday, excepting in seriousness of result. There was a very much less formidable earthquake at the end of December, 1893, which was also practi-

cally conterminous with the boundaries of Lower Bengal, and which declared itself most emphatically at nearly every one of the stations we have mentioned above as affected in 1885. It is absurd to suggest that the seismic experience of Calcutta dates from last week. On the contrary, the fact that there have been three shocks over the same area within the last dozen years is highly significant and calls for enquiry into the causes which have rendered the lower portion of the Gangetic basin so liable to those attacks, while the rest of India remains unscathed.

The day after the 1885 shock a correspondent learned in these matters wrote to us pointing out that "the pressure of the atmosphere on the earth's crust is about 15lbs to the square inch," and that "either an increase or decrease of this pressure will affect materially the contents, gaseous and liquid, of the cavities in the earth's crust." Our correspondent went on to show that violent explosions in mines were generally preceded by a sudden fall in the barometer, and were probably due to the outrush of choke damp upon the atmospheric pressure being lessened. "If," he continued, "a lessening of atmospheric pressure produces the effects noted in the case of mines, it requires no stretch of imagination to believe that similar effects may be produced in the great cavities of the earth's crust." Upon this basis our correspondent argued that we might naturally expect to find from the records of the meteorological office that the earthquake was preceded by a fall in the barometer over the centre of the disturbance. As a matter of fact, however, there was no deviation from the normal in the barometric conditions prevailing at that time over Bengal. Our correspondent was, therefore, compelled to look for his centre of disturbance "outside the limits of the area presided over by the Meteorological Reporter to Bengal." We regret that up to the present the centre has not been discovered, but it will be admitted that the theory is an ingenious one, and has all the symmetry of scientific logic about it. We noticed the other day that the earthquake of the 12th appeared to have passed without any

of these tidal disturbances which so frequently accompany or follow seismic shocks. We may remark that the slight earthquake of 1888 was synchronous with a tidal bore on the Hughli. It is now abundantly apparent that the shock of 1897 has not been lacking in this characteristic feature. At Goalpara a tidal wave is said to have destroyed the bazar and swept away sixty people. Jorhat Lake was agitated, and at Dibrugarh tidal waves were driven across the current of the nuddoe. In the meantime the full text of the Chief Commissioner's telegram throws a lurid light on the horrors of the catastrophe in and round Shillong. The survivors can still feel the agitations of the earth's surface, as they seek precarious shelter near the ruins of their houses, and the pitiless monsoon pours its opening deluge upon delicate women and children. There has been enormous destruction of food supplies, and therefore there will be scarcity in the near future. Mr. Cotton asks for special assistance for Sylhet, "which in my present condition, I cannot supply." The blow must indeed have been a crushing one, to have forced the ruler of a Province to this admission.

THE "EARTHQUAKE OF 1737 AND CERTAIN OTHER MATTERS

(*The Englishman, Friday, July 2*)

A correspondent of the *Englishman* of June 29 reproduces (as he thinks) the curious account of "the appalling cyclone and earthquake which almost desolated Calcutta exactly one hundred and sixty years ago," which appeared in the *Gentleman's Magazine* of 1738. To this account he appends, by way of illustration, an extract from a publication of his own. These two passages taken together form a remarkable example of the growth of earthquake stories, as well as of the vitality of the prevalent mistakes respecting early XVIIIth century Calcutta history. In the first place, as to the earthquake (if there was an earthquake), then as to the church steeple which is said to have been so tragically

engulfed, then of the church itself which the Freemasons are supposed to have dedicated to St John.

The narrative which appeared in your columns is apparently taken from "Asinticus," who had before him what he no doubt supposed to be a correct extract from the *Gentleman's Magazine*, volume VIII page 321, and in it he read this extraordinary statement which he inserted in his historical sketch [published *circa* 1803] in good faith "The high and magnificent steeple of the English Church sank into the ground without breaking" The actual narration in the *Gentleman's Magazine* contains no allusion to the church steeple! It is so curious, however, that it is well worth reproducing in full. The date of the catastrophe is given usually as midnight between October 11 and 12 a reckoning probably arrived at by translating the 'old' into the "new" style.

"On September 30th last happened a furious hurricane in the Bay of Bengal attended with a very heavy rain which raised 15 inches of water in five hours, and a violent earthquake which threw down abundance of houses, and as the storm reached 60 leagues up the river, it is computed that 20,000 ships, barks, sloops, boats, canoes, etc., have been cast away. A prodigious quantity of cattle of all sorts, a great many tigers and several rhinoceroses were drowned, even a great many caymans were stifled by the furious agitation of the waters and an innumerable quantity of birds was beat down into the river by the storm. Two English ships of 500 tons were thrown into a village about 200 fathoms from the bed of the river Ganges, broke to pieces, and all the people drowned pell mell among the inhabitants and cattle. Barks of 60 tons were blown two leagues up the land over the tops of high trees. The water rose in all 10 feet higher than usual. The English ships which drove ashore and broke to pieces were the *Becket*, *Devonshire* and *Dover*, and the *Polham* is missing. A French ship was drove on shore and bulged .. after the wind and waters abated they opened the hatches and took out several bales of merchandize, etc., but the man who was in the hold to sling the bales suddenly ceased

working, nor by calling him could they get any reply, on which they sent down another but heard nothing of him, which very much added to their fear, so that for some time no one would venture down. At length one more hardy than the rest went down and became silent and inactive as the two former to the astonishment of all. They then agreed by lights to look down into the hold which had a great quantity of water in it, and to their great surprise they saw a huge alligator staring as expecting more prey. It had come in through a hole in the ship's side and it was with difficulty they killed it, when they found the three men in the creature's belly."

After giving what he supposed to a transcript of this original passage—whoever procured it for him, partly condensed and partly extended it at his own fancy—"Asiatick" adds in a note to the name of Mr Charles Weston —

"Mr Charles Weston, the son of the Recorder of the Mayor's Court, was born in Calcutta in 1731, in a house then opposite to where the Turret Bazar now stands. He recollects the great storm and inundation of 1737, as it compelled his family to quit their house. The steeple of the church he states to have fallen prostrate, a more probable position to have fell in than that stated in the *Gentleman's Magazine*."

The *Magazine*, however, as we have seen, made no such statement as he supposed, still it is quite plain that the steeple was blown down and did not go to pieces in the fall. We may conjecture that it was a timber structure sheathed in copper or lead. The deluge of mud and wreckage washed over the settlement by the 40 feet tide may have partly concealed the prostrate spire, and so have given origin to the tradition that it sank into the ground. This legend may in turn have given rise to that of an earthquake having accompanied the cyclone. The oldest accounts say nothing of an earthquake.

The earliest account of this famous catastrophe is found in the "Consultations of the Fort William Council," and

there we only read as follows —“ On the 30th September there was a great storm which drove several ships ashore. The Mahanna flagstaff at Balasore was blown down ”

This is all no mention of the 200 ruined houses in Calcutta, nor of the 20,000 river craft said to have been lost, nor of the 300,000 native souls, the records of whose fate is another of the pieces of information which “*Asiaticus*” imagined to have been preserved in the *Gentleman's Magazine*. The story of the cyclone of 1737 affords, in fact, a curious example of rapid enrichment, by its narrators, of a popular legend. We are provoked to discredit even the 40 feet tide, necessary as it is to save some original truth in the story of the engulfment of the steeples.

The spire was certainly blown off, and the tower on which it stood had, most likely, to be taken down to the level of the church roof.

Now as to the church itself. The account given in the letter recently published says, among other matters not in dispute, that (1) it was built in 1716, (2) the Freemasons chiefly contributed towards its erection, and it was at their suggestion designated St John's Church, (3) its first chaplain “was probably the Revd Samuel Brereton, who may be mentioned as the earliest chaplain in Calcutta as his name occurs in the records as far back as 1700”, (4) when death vacated the chaplaincy, a civilian received Rs 600 a year for performing divine service on Sundays. With regard to No 1. The church was finished probably in 1708 and was consecrated on Sunday, June 5, 1709. As for No 2. There appears to be no evidence especially connecting the Freemasons with its erection and it was dedicated to St. Anne, not to St John, a loyal compliment being doubtless thus intended to the reigning sovereign. In 1700 a chapel was built within the old fort, and was dedicated to St John [probably the Baptist], and seeing that the Provincial Grand Lodge of Freemasons of Bengal had been revived the previous year and that three or four of its chief

officers were connected with the building project, it is quite likely that the fraternity did subscribe liberally and provide the inaugural ceremonies of the Chapel. Regarding No 3. Chaplain Benjamin Adams was the chief promoter of the building of the first Presidency Church at Calcutta, and his successor, Chaplain William Anderson, officiated at the dedication. There never was a Chaplain Brereton in Calcutta. The name is probably in error for Samuel Brierecliffe, who arrived in 1713 and died in 1717. No 4 approaches closest to accuracy of these several statements. It is based no doubt on what Captain Hamilton says about young merchants in the vacancies of the chaplaincy receiving £50 a year (a chaplain's statutory salary) for reading prayers and sermons on Sundays, but this allowance has not been traced as having been actually paid to anyone. It is quite possible that Captain Hamilton's statement (in itself quite a likely one, however) arose out of this solitary fact that when Chaplain Anderson died in 1711 Mr James Williamson, a member of Council and Jemadar of settlement, read prayers and a sermon in St Anne's every Sunday for some months at least. He did not put on a surplice, but for decorum's sake—the prevailing dress of the Queen Anne period being somewhat gay—he provided himself with a suit of black clothes, for the sole purpose of the church duty. On account of this expenditure the Council voted him a gratuity of Rs 100—

H B H

THE EARTHQUAKE OF 1762

(*The Englishman, Thursday, July 15*)

A scientific report on the late earthquake is in process of preparation by the Indian Geological Department, and no doubt will comprise comparative observations on other recorded earthquakes affecting about the same regions. And we venture to think that so far as Calcutta is concerned the shocks of 1897 will be found to have been by far the severest

ever recorded. Setting aside the alleged earthquake of 11th, 12th October, 1737 (new style), it is, perhaps, correct to state that the earliest of such earthquakes, of which we have any thing like a scientific narrative, is one which occurred on the 2nd of April, 1702, and which violently convulsed what were then called the kingdoms of Bengal, Aracan and Pegu, and by which 60 square miles of sea coast are said to have been permanently submerged. At that time Calcutta had the good fortune to possess as its junior chaplain a Fellow of the Royal Society, the Rev William Hirst, M.A. He had but just arrived in the settlement, and apparently gone to officiate at Chandernagore and at Ghioratty, three miles south of that station, where Colonel EyreCoote's forces were in cantonment. In Chandernagore the shock was felt, though Mr Hirst in his communication to the Royal Society on the subject says that he was himself insensible of it. He went immediately to Ghioratty and there learned that the waters of the river and the tanks of that place had been so violently agitated that in many places they "rose to more than six feet perpendicular height, of which"—he adds, "I had ocular conviction myself." Almost simultaneously the shock was felt in Calcutta, where it was ascertained that "the agitation of the waters in the tanks rose upwards of six feet, and was in the direction north and south." He adds that "the height of the thermometer on Fahrenheit's scale was then at Calcutta at 95°30—much higher than it had been observed to be during the whole month, the lowest decant of the mercury being 89 degrees. In this month was much thunder and lightning and there were fresh gales of wind at S.E., the weather in general being close and sultry." Hirst learnt that the most violent action of the earthquake was experienced "at the metropolis of Aracan," where as was reported by an English merchant resident there, "the effects have been as fatal as at Lisbon." At Dacca, in Bengal, the consequences were also terrible. "The rise of the waters in the river was so very sudden and violent that some hundreds of large country boats were driven or lost, and great numbers of lives lost in them."

At Chittagong also the effects were deplorable. Mr Verelst, Chief of the E. I. Company's affairs at that time at Islamabad, appears to have obtained a special report thence, as the Company had much property in the district. The report was written in Persian, and of this Mr Hirst sent a translation home together with an independent narrative by one of the English officials. One practical result of the investigations was that the assessment of the Company's estates in the Chittagong district had to be reduced. At Chittagong, according to the narrative of Mr. Edward Galston, the young official before mentioned, the earthquake was felt precisely at five o'clock in the afternoon and lasted about four minutes. No less than eleven shocks were recorded that night and the next morning. The second was at 5-12, and lasted one minute. The rest were at 5-6, 7-0, 10-0, and on April 3rd at 1, 2, 3, 5, 10-25 and 10-40 A.M. After these another was experienced between six and seven that evening, while "Harrist's Hill" was thought by everyone to be "in perpetual motion." Mr Galston describes the excitement which prevailed in the settlement during the coming week. In the primary convulsion the Chittagong factory, a brick building, was so damaged as to be not safely habitable, "thereabouts and in many other places the earth opened, and the waters gushed out prodigiously, and in the chaise road, especially towards the north quarter, there are great chasms two feet wide and upwards." At the time of the first shaking also great explosions were heard like the noise of cannons to the number of fifteen. "All the tanks overflowed their banks, fish were cast up, and the river rushed upon the shore like the surf of the sea." "I would not," concludes Mr Galston, "that such a shock as the first should happen at Calcutta for all I am worth, since of necessity the terraced houses must fall to ruin."

The native account says that the earthquake began at Chittagong with a gentle motion which "increased to so violent a degree, for about two minutes, that the trees, hills and houses shook so severely that it was with difficulty in any

distinct shocks with "up and down" motion are recorded. From that date until November 11, 1842, the whole Delta seems to have been in perfect quiescence. In a long and learned memoir on Indian earthquakes by Lieutenant R. Baird Smith, read by him before the Bengal Asiatic Society in the following year, it is stated that the great shock of 1842 occurred at 9.38 P.M. and seems to have been felt almost simultaneously at Darjiling on the north, at Chittagong (where several shocks had occurred in previous months of the year) on the east, and at Monghyr on the west, where it was severe.

Monghyr is supposed to have especially frequent visitations of this sort, the hot spring of Sitacand being, perhaps, indicative of this susceptibility. The shock was also experienced with some violence on board the ship *Agincourt*, when about fifty miles S.E. of the floating light. This ship, according to the newspapers of the time, was then just completing a voyage of 50 days out from England—a truly remarkable achievement. By comparing times and directions, Lieutenant Baird Smith came to the conclusion that the shocks felt in this region originated within the Ganges Delta, and were not communicated from any other tract. Further, that the focus of the seismic force lay at some little distance north east of Calcutta. At Darjiling the shock was felt apparently simultaneously with Calcutta, here a small amount of damage was done. The plaster fell from the walls of "Caroline Villa" and "Mount Pleasant". At Gauhati, in Assam, it was felt slightly, at Chittagong, severely, at Barisal the heaving of the ground was accompanied by "a rumbling noise similar to that of heavy ordnance passing over the ground". At a place, not named, 55 miles east of Calcutta, a shock was felt on the following morning at 5 o'clock. Here the dogs began howling and there was heard a loud rumbling "as of carriages going over a drawbridge". Houses rocked, doors were flung open, walls cracked and much plaster was thrown down. At Acra, about six miles below Calcutta, the shock was very severe, it was probably simultaneous with that

at Calcutta. A house there was rent in twenty different places, the doors rattled violently, mortar came flying down everywhere in handfuls. There were four shocks observed, three first in quick succession, and one about a quarter of an hour later, "empty bottles were broken at the mill, and the pigs and fowls, ducks, geese, dogs, and horses made a most hideous noise." At Howrah the principal oscillation is reported as "violent in the extreme." The *Friend of India* of November 17, 1812, thus describes the sensation of the convulsion at Serampore. "A very severe shock of earthquake was experienced yesterday evening. It was accompanied by a noise which at first resembled some 'mighty rushing wind,' and then the loud rattling of carriages over a stony street. The shock came from the eastward, the clocks of which the pendulum vibrated from north to south, were stopped, while those which stood east and west continued going. So violent a shock has not been experienced in this part of the country for the last twenty-five years. There was an unpleasant stillness in the air, previously to this occurrence, but the wind rose strongly from the eastward almost immediately after."

In Calcutta the Asiatic Society was meeting at the time of this earthquake, and the president made this note in the minutes. "The proceedings of the society were interrupted by two or three slight vertical shakes or heaves of the earth with a noise like the rambling of a passing carriage, and one strong horizontal shake from east to west or from N. E. to S. W. The whole took place within about a minute of time." It may be here remarked by way of contrast that in the late earthquake which appears so far as existing evidence goes, to have been by far the most violent that ever visited Calcutta, the Asiatic Society's house was not merely shaken, but badly riven in every direction, several of the pictures being precipitated from the walls. During the same minute of agitation the mercury in a barometer on the 2nd floor of St. Xavier's College in Chowringhee was observed to rise and fall repeatedly to an extent of seven or eight tenths of an

inch The water in a neighbouring tank of about 300 yards by 70 in area rose in considerable waves, while the river at the Botanic Gardens, where it is narrowest, below Calcutta, was visibly agitated From a ship lying in the port a most extraordinary phenomenon was reported A strange luminous appearance was observed extending from Chandpal Ghat north westward for some distance The moon at the time was densely obscured This mysterious brightness is said to have closed in around the ship and immediately on this embrace "a general and severe tremor was felt throughout, as if a taut chain cable was grinding under the keel, or a sudden squall had struck the ship" None of the earthquakes within the Gangetic Delta recorded up to 1842 were according to Lieutenant Baird Smith, accompanied by fissures opening in the earth—save that of 1737 (if it ever occurred), in which, as a late tradition would have it, the steeple of the Calcutta church was swallowed up intact

DESTRUCTION OF HOUSE PROPERTY IN CALCUTTA

PUBLIC BUILDINGS DAMAGED

SERIOUS LOSS OF LIFE

One of the most alarming and destructive earthquakes of modern times swept over Northern India, from Manipur to Bombay, on Saturday evening about five o'clock Calcutta felt the full force of the shock, and has suffered incalculably. The weather at the time was close and sultry, and slight monsoonish showers had fallen during the day, but there was nothing to warn the city of the coming visitation As is usual the first indications of the phenomenon were slight, and were for the most part mistaken for some local disturbance due to ordinary causes. Doors creaked, timbers groaned, and there was a slight vibration of floor and walls which might be ascribed to the passing of heavy carts in the street But in a few seconds, these symptoms were accentuated beyond all possibility of doubt and those who had had any previous ex-

perience of the kind were not slow to recognise the nature of the visitation. The earth wave, which passed from east to west, grew rapidly more decided, until the whole town was swaying and rocking in a manner that threatened in a few minutes to reduce the City of Palaces to a city of ruins. It is safe to say that few buildings in Calcutta have entirely escaped the force of the wave while the great majority have suffered very considerably. From a birds eye view of the town, it presented the appearance of having been bombarded.

GENERAL SURVEY

Most of the official buildings were not much affected, but at least one house on the Esplanade, Moore & Co, was wrecked, another in Dharrumtollah, the residence of Dr Feldstein was in an even worse condition, several houses in Bentinck Street had collapsed, all along Chowringhi the track of destruction was traceable. The spire of the Cathedral was truncated, the spires of St James's in Circular Road and of the Free Church of Scotland in Wollesley Street were partly down, and out in Ballyganj three residences in the Store Road were in ruins. The Foreign Office shows an ugly fissure between the large verandah, facing south, and the house, and, over the way, the National Bank has been shorn of a projecting path room, the brick-work falling in towards the Delhi Bank. Back from the line of Chowringhi, matters were even worse. Camao Street and Russell Street had suffered severely. The boarding house, No 11, Middleton Row, was in so bad a state that the inhabitants had to move at once, and proceeded in a body, it is said, to the Grand Hotel. The sight from any of the all buildings facing Chowringhi must have been extraordinary. The Ochterlony Monument is described as swaying visibly, and great wonder is expressed that it did not topple over. The outlines of the city were seen to waver and undulate, and the effect was heightened by the occasional crash of mortar and masonry. After the alarm had passed, people were able to recall with amusement the rush of half clad figures from the tottering houses. The shock occurred just as people, in

the ordinary course, were preparing for their evening drive, and it caught them in various states of preparedness. There was no time to do more than snatch up any odd garment that came handy, and it may be doubted whether such an unconventional assemblage was ever seen on the line of Chowringhi. One of the signs of the rough usage to which the town had been subjected was the frequent deposit of *debris* in the streets, where cornices, balustrades, or verandahs had given way. Indeed, in some parts, a glance at the foot paths would have readily confirmed the impression that the city had been shelled, and it is unpleasant to think what the result would have been had the shock continued a few minutes longer. On the whole, the large new buildings stood the test well, and many of the massive residences in the older parts of the town suffered little, but a prolongation of the wave might have led to most disastrous results.

One of the newest structures in the town, the Standard Insurance Office, in Dalhousie Square, is said by those occupying the high quarters at the top to have felt the shock severely. The oscillation at that height was violent, but no harm was done to the building. As showing the limitation of the wave it may be observed that at Tollyganj the shock was hardly perceived. Some of those who had gone out early to the Tollyganj Recreation Club actually knew nothing of the earthquake till they returned to Calcutta. All through the evening till darkness made sightseeing impossible, crowds perambulated the town, and a string of carriages made the round of the main streets. Cyclists were to be seen darting about everywhere, while every now and then one came upon a party of police driving with serious purpose in some particular direction to which they had been summoned. One of the oddest sights was to be seen in Dalhousie Square. The heavily-loaded telephone posts all along the west side of the square were broken off at the base, and were leaning over against the trees inside the railings. No doubt they had all snapped at the same moment with a sudden tighten-

ing of the wires. Of course, as is usual in any disturbance, aerial or subterranean, the crows had a voice in the matter. The din they set up was to many the first intimation of trouble. To those in the open, however, the first alarming indication of the serious nature of the earthquake was the loud rumbling noise by which it seemed to be introduced, and which died away in about thirty seconds, not to be repeated.

STATE OF GOVERNMENT BUILDINGS.

Government House has been slightly damaged. Some of the walls have been cracked, and the plaster has given way in places. But the gateways, which might have been expected to show signs of the shock, are intact, and the outside of the building is unaffected. Belvedere has weathered the storm practically without damage. There are some slight cracks in the walls but nothing to speak of. Yet the shock was badly felt in the neighbourhood.

Perhaps the public building which has suffered most is the Town Hall, of which Mr. James, the Commissioner of Police, made a careful personal examination on Saturday night by lantern-light. The enormously heavy balustrade that runs round the roof of the building has come down bodily at the corner near the side entrance, and immediately over the police thana. For about thirty feet on the east side, and the same distance in front, the balustrade is clean gone, while from the inside of the hall it is seen that a large gap has been made at the top of the wall. The repairs of the building had just been completed, but it is to be feared that it will have to undergo another overhauling. Two of the steps in the grand staircase on the right of the entrance have fallen through, and in many places the building is badly cracked. The floors and staircase are littered with fallen plaster, but perhaps the general aspect is to some extent due to the fact that the building is still in the hands of Messrs. Burn and Co.'s workmen.

The General Post Office is not much affected, although the hall under the great dome was covered with fallen plaster that had come down from the pillars immediately under the dome. Outside there was no sign of damage. The Bengal Secretariat, the Telegraph Office, Imperial Secretariat, and the Government Press seem to have escaped untouched, but St Paul's Cathedral and St John's Church have both suffered badly. The loss of about fifteen feet of the Cathedral spire is one of the most conspicuous effects of the earthquake. The iron portion at the top of the spire has fallen bodily on to the roof of the church and the twisted iron rods at the place where it has broken off show the direction in which the mass must have fallen. What damage has been done to the roof is not yet known, and the other injuries are comparatively slight. St John's has been seriously cracked in several places, especially at the junction of the northern portico with the main building, and there is some fear that the steeple has bulged about half way up. Charnock's tomb, in the churchyard, presents a curious appearance. The heavy capstone is intact, but all the supporting pillars are stripped of their thick casing plaster, revealing the strong brick work. As at the Cathedral, the clock of St John's had stopped at 5 2 P M.

An eye witness gives a sensational account of the appearance of the High Court during the earthquake. He writes —I was on the Maidan in front at the time and had a good side view of the tower, which swayed heavily for a distance, I should say, of not less than four feet. I fully expected to see it come down by the ruin, and the crash of falling masonry in the adjoining street seemed a fitting prelude to the overthrow of the lofty and imposing tower which is the most distinguishing landmark of Calcutta from the river. However, the wave passed, leaving the tower inclining several inches in the opposite direction to the old bias. Several of the pinnacles have been twisted round until they are quite out of line with the moulding. Recently, the engineers who undertook to rebuild the tower a year or two ago, are

to be congratulated on their work, for, on the whole, it has come well through a terrific test. The inner verandahs of the main building and the courtrooms have been damaged in places, but not to any serious extent.

The Bank of Bengal suffered in no way. Mr. Aitkin, of the firm of Messrs. Mackintosh and Burns, was quickly on the spot and pronounced everything safe. Some of the assistants were in the Bank at the time, and they timed the shock as lasting five minutes. Mr. Cruickshank's official residence also escaped; but Messrs. Sanderson and Co's office suffered somewhat, a window sashade coming down with a crash. The Royal Exchange experienced a heavy shock, two doors of the Chamber of Commerce buildings were broken, and a gentleman stated to our reporter that he timed the shock as lasting five minutes.

St. Andrews' Church and the Old Mission Church have been seriously damaged. Some fourteen feet of the steeple of the Scotch kirk appears to be cracked and to be held on in its place by a wire rope which is coiled round it. A great crack appears on the east side of the building.

The Imperial Museum shows a great crack on the north side of the main gateway. The crack is in the centre of the arch and extends some way up the entablature. The new additions to the Museum are not damaged. In the art section some thousands of rupees' worth of pottery and other articles have been smashed.

The Calcutta Police Office and the Coroner's Court in Lall Bazar Street have been badly damaged. A portion of the roof of the Court gave way, and the resident clerk, Mr. Godfrey, had to abandon the premises.

Rai Baddree Dass Bahadur telephoned yesterday evening to the Lall Bazar Police Office that the pucca premises, No. 69, Bartollah Street, was likely to collapse. Mr. Paget, the Deputy Commissioner, went to the spot, and after an inspection, directed the necessary steps to be taken.

SOUTHERN DIVISION

Perhaps the Southern Division of the town suffered most severely. The scene in Dhurrnmtollah Street when the shock commenced was one of intense excitement. The European and Eurasian residents left their houses and ran out into the streets panic stricken, and some went so far as to remove their furniture and belongings to places of safety. A newly erected portico to the house occupied by Dr. Feldstein suddenly came down with a tremendous crash, and Dr. Feldstein, who was in the house at the time, at once made for the street with his dog. He had hardly reached the pathway outside when down came the portico, causing a good deal of damage to the medicines stored in the side rooms. The whole of the front of the house looks as if it had been torn away. The gable over the clock tower of the Church of the Sacred Heart oscillated considerably, but no apparent damage was done. The horse statue which adorns the top of the grand entrance to Messrs. Lister and Co., oscillated, and had it dropped on to the roadway, the consequences to passers by would have been serious.

The building alongside Messrs. Lister and Company, chemists and druggists, have an added part at the rear hanging at an angle of several degrees, threatening to collapse at any moment. The upper floor contiguous to the Belattee Bungalow, in the occupation of Messrs. Moore and Company is a total wreck. Happily it was not occupied at the time, but the damages to furniture and other fittings is said to be great. The Great Eastern Hotel suffered in no way, but as great was the fright occasioned by the shock to one lady visitor that she had to be carried out in a dead faint. The dining room of the Assistant Secretary, Mr. H. A. Phillips, who resides in No. 1 British Indian Street, suddenly fell in. Mrs. Phillips and the other members of the family had just had afternoon tea and gone out, when the building fell.

Round the corner in British Indian Street the premises of Messrs. Traill and Co. were almost wrecked, the front

portion of the building and a portion of the roof came down with a tremendous crash. A few minutes before the establishment ceased work, and the large staff of employes had left for their respective homes. One of the European employes who resides on the premises, was at the time in his private room and escaped with difficulty. The adjoining building, the office of the *Indian Daily News*, has also suffered severely, the walls in several places have been badly cracked.

Messrs. Thacker, Spink and Co.'s premises have been considerably damaged, and the upper storey has been rendered uninhabitable. The building occupied by Messrs. Boseck and Co., jewellers, facing Spence's Hotel, has also suffered badly. A portion of the roof has completely given way and those who were in the premises at the time had a narrow escape. Spence's Hotel has had a severe shaking and the flight of residents in more or less light and fantastic garb was very precipitate. The building shook as though in convulsions and a good deal of plaster and several stony walls bear testimony to the force of the shock.

dangerous condition, a portion of the building having collapsed. The Roman Catholic Church in Portuguese Church Street escaped uninjured. Very slight cracks only being visible. A portion of the roof of house No 10, Portuguese Church Street, came down, while the pillars and walls inside were rent. Most of the houses in Ezra Street were damaged, especially No 17, a large part of the roof having fallen in. No 71, Canning Street, is so badly damaged, that it is considered dangerous to passers by. No 1 Amra tollah Street, a very old building, was similarly cracked.

Three men were injured at No 116, Canning Street, by the falling of bricks, one of whom was sent to hospital. The premises occupied by Messrs D B Mohita and Co, in Canning Street, were also damaged, the parapet having been entirely swept away. The office of Messrs Heilgers and Co in Canalag Street, was also damaged by the falling of a portion of the cornice. The house No 117, Chitpur Road, known as the Gole Kotee, was very badly cracked, as also was No 150, Chitpur Road. In Colootollah Street the verandah of No 63 collapsed. There were besides small damages to many houses in the vicinity of Colootollah. Many houses in Tirotta Bazar Street, Chitpur Road, Macher Bazar Street, Halliday Street, Harrison Road, and Phear's Lane, were more or less damaged, but no lives were lost. In house No 84, Lower Chitpur Road, a man was injured by the falling of a verandah, and in house No 56, Upper Chitpur Road, a woman was injured by the falling of a verandah. Another woman received injuries in house No 36, Munshi Suddaruddin's Lane, by the falling of a portion of the portico. In Cornwalls Street and Beadon Street there were no very serious damages, or injuries to person and property.

IN FORT WILLIAM

Nearly all the barracks occupied by the European troops (the Gloucestershire Regiment) were more or less damaged, and the chief quarters, the Dalhousie and the South barracks, were badly damaged. The former of these two latter buildings was a

occupied by about 600 men, and just as they had been served with afternoon tea and were preparing to go out for the evening the shock was felt. From all accounts the structure, a three storied one, first quivered and then began to rock. The men at once rushed down to the ground floor and from thence into the open. After the shock had passed, the officers of the Military Works Department with Conductor Hay, proceeded to examine the whole of the barracks, and after a thorough investigation pronounced it safe for the time being. On a re-examination, however, yesterday morning the Military Works officials deemed it advisable to have the men removed immediately and placed under canvas. After the parade service yesterday morning, the men were ordered to vacate the building and were in two hours' time in tents on the regimental parade ground in the Fort. In the barracks several of the centre arches are two to three feet open, and there was a dropping fire of bricks and mortar all Saturday night. The top floor suffered the most every cornice and archway exhibiting traces of the severity of the shock. This building fared the worst on account of its height. The barracks occupied by the married men were similarly damaged but not to such an extent. The panic among the women is beyond description. A general rush was made for the steps to the landing and one woman (the Drum Major's wife) ran to the west end of the building from the third loft and climbed down by means of the lightning conductor. When picked up, she had fainted but she soon recovered. The water tower at the south west of the Fort was seen to sway a good deal, and was in obvious danger of collapse. The quarters of the General Commanding the District and those occupied by the staff as well as the officers of the Gloucestershire Regiment have stood the shock bravely, and are not in any way damaged.

The Roman Catholic Chapel has been slightly damaged, and the Church of St. Peter's has escaped, as also did the Oratory and other buildings. No one was injured within the Fort.

LOWER CIRCULAR ROAD

Scarcely a building in Lower Circular Road is unaffected. Most of them are very old, and consequently the destruction was considerable. The building utilized as the Paddo-puker Thana came down, and Inspector Paterson and his family and other constables on the premises narrowly escaped with their lives. Fears were entertained for the tall chimney of the incinerator—by far the tallest in Calcutta—but it stood the test admirably. It swayed to and fro during the shock, but settled down in an erect position, seemingly unscathed. A number of Lites which were perched on the summit were startled, being literally thrown off. One of the birds, it is said, fell dead on the ground. St. Teresa's Church escaped with slight damage.

BOW BAZAR STREET

Several large buildings in Bow Bazar Street occupied by cabinet makers have been extensively damaged and rendered unsafe. At some places portions of the roofs and porticos of these buildings gave way, smashing a good deal of new furniture. In the crockery and glassware shops, which abound in this street, a large part of the stock in trade was destroyed in a similar manner. Residential quarters in this street also suffered in no small degree. The Scottish Zenana Mission School, almost at the end of the street, is quite uninjured. The Church of our Lady of Dolours has suffered somewhat, and lost twenty feet of its steeple.

PEOPLE SLEEPING OUT OF DOORS

It will never be known how many were rendered homeless by the earthquake, but many Europeans and Eurasians including ladies and children, were to be seen parading the central parts of the town in quest of a night's shelter. Every building that had been lying vacant was quickly taken up and the boarding houses that had escaped were having a harvest. Of course, many persons found shelter with friends, and the most expensive accommodation

was utilised to the utmost. One hears of tea or twelve persons being packed away in a single room. Many ladies and children were reduced to spending the night in the open air, seated on stools and on empty wooden cases in front of their damaged houses, so as to keep a watch on their property. On Sunday morning Calcutta presented a scene of unusual activity. Numbers of people were seen all about town either moving furniture or hanting for lodgings. Most of the empty houses were hopeless on account of the damage they had sustained. Landlords, with an eye to business, stuck out for high rents and long leases. Many, however, have been very reasonable and they are not likely to lose in the end. The scarcity of house accommodation is certainly causing much anxiety to a large section of the European and Eurasian community.

KIDDERPUR AND HASTINGS

St Stephen's Church and several houses in Alipur Road and Alipur Lane are reported to be badly damaged. A house inhabited by natives in Jorapur suddenly collapsed, but there was no loss of life. At Eghalpur all the houses, including the police thana, were badly injured. At Watganj the thana, the Marquis Hotel, the Post Office, the Burma Military Police Hospital, and four Government buildings, have suffered more or less severely, while many of the native tenements of small houses have been rendered homeless. Inspector Farrier, who occupied quarters at the police thana, had to vacate his house with his family on Saturday night. The whole family were asleep at the time of the shock, and were aroused in time to rush out and see the building cracking on all sides. Adjoining the thana is the factory of the N W P Soap Company, and Mr. Shorter, the proprietor, who was occupying quarters on the factory premises, had to find shelter at the Belvedere Hotel in consequence of the west wing of the building collapsing. Superintendent Forsyth, in charge of the Watganj thana, had also to seek shelter at this newly-established hotel, owing to the state of the thana. The

having the instrument slip eighteen inches from him and then to be lurchd almost bodily upon it was an altogether novel one, and not particularly pleasant. While this is only one instance of a partially demolished house by the earthquake, it may be taken as being fairly typical of many others.

REPORTED LOSS OF LIFE.

Up to a late hour, the loss of life was reported to be eight,—five in Amherst Street, one in Burra Bazar, and two in Watganj. All these are natives, and setting aside the Howrah report, no Europeans are among the killed. Twelve natives have been injured, and it is to be feared that many casualties have yet to be reported. There are rumours of loss of life in Harrison Road, but these have not so far been verified.

ON THE RIVER

No great disturbance seems to have occurred on the river. One gentleman, who had been on board a big steamer at the time, knew nothing of the shock till he came ashore. There was nothing like a tidal wave, although it was thought that one might have formed at Saugor. Two vessels broke from their moorings, but fortunately no damage was caused.

A correspondent writes to us contradicting a report that there was a great commotion on the river. He was on a steamer nearing Babu Ghât at the time of the earthquake, and no one on board knew of it, nor was there any stir among the native boats. The river at the time was as smooth and still as a lake.

ON THE EASTERN BENGAL STATE RAILWAY.

The earthquake was severely felt at many of the stations on the Eastern Bengal State Railway. At Kanma the shock was felt at 16.24 hours (Railway time). The earth cracked in several places, and sand and water issued in large quantities. The damages to life and property are not yet known.

A telegram intimates the collapse of a railway bridge at Pachuria, between Rajbari and Goalundo.

* Much damage has been caused to the Sealdah Railway Station. Large cracks have appeared on the portico at the main entrance, while the top portion of the masonry acting as a support to the corrugated iron roofing has been much shaken. There has been a great displacement of the plaster, and here and there the brickwork has been loosened.

A telegram from Serajganj reports considerable destruction of property. Several European and Native residents have been rendered homeless.

CONNECTION WITH DARJILING

We have received the following telegraphic information regarding the state of traffic in Northern Bengal —

Bagoola — Serious damage has been done to the station and other railway buildings. The station building is cracked all over.

Sara — The shock was very strong and lasted $4\frac{1}{2}$ minutes. All the railway pucca buildings are greatly damaged, and are uninhabitable. A large bridge has gone between Atrise and Nattore, and another is damaged near Domar.

Consequently the down Darjiling mail which arrived at Silliguri at 6.58 P.M., was detained there, and some of the passengers returned in the morning to Darjiling. The Darjiling mail which left Calcutta at 4.27 was detained at Sara, and the passengers are still there on the ferry steamer. All other trains are detained at Sara. The mail trains left Sealdah on time, but the passengers were informed that they could not be booked beyond Sara until the line was opened.

THE EAST INDIAN RAILWAY

The East Indian Railway authorities have been flooded with telegrams which have brought to light quite a series of damages caused to stations on the line. The Howrah Railway Station itself has to a certain extent escaped any very serious damage. The departure platform, from appearances, has been unaffected, but the arrival platform, which is supported by huge pillars on one side, has suffered. The damage, however, is slight and can be easily remedied.

had also been thrown down in the same direction. The time this unexampled earthquake lasted is variously estimated from 4 to 6 or over 7 minutes. It may be interesting to know that a slight, but distinct shock was felt yesterday night at about 9.30 and another one at about 8.30 A.M. this morning. The barometric curve of yesterday is almost a straight line, showing an almost stationary state of the atmosphere—
Yours sincerely—E. LAFORET, S. J.

FROM MANIPUR TO MADRAS

REASSURING REPORT FROM THE HUGHLI

(The Englishman Tuesday, June 15, 1897)

Reports from all parts of Northern India continue to be received, giving accounts of the damage done by the earthquake. It was felt with great force as far to the north east as Manipur and slightly as far south as the Madras Presidency. The report from Coconada on the East Coast Railway, is to the effect that the shock was slight at that place and it does not seem to have been felt much further south. Durgin seems to have suffered as seriously as Calcutta but in the hill station the danger from falling houses was, of course, on a greatly smaller scale. The breaks on the Eastern Bengal Railway have led to a temporary suspension of through booking, and for the present passengers are unable to go beyond Sara. The only other interruption is on the Assam Bengal line. The telegraph wires between Calcutta and Bombay have suffered and no doubt many posts are down. One of the great causes of apprehension may now be definitely set aside. Nothing in the least like a tidal wave followed upon the shock, and we have been spared the terrible loss of life which is caused by such a subsequent visitation on the low lying districts along the coast. According to the Port authorities, there was not even the semblance of a

bore on the river on Saturday evening. The tide in Calcutta at the time of the earthquake vibrated one foot and ten inches, and absolutely no damage was done. Some of the masters of vessels in the river report having heard a rumbling noise, as if steam had been blown off, but they only afterwards discovered what it was. The water in the tidal canal rose and fell only three feet. A telegram from Sangor received in Calcutta yesterday states that the shock was felt there about 5.5 P. M. and was extremely severe. It passed from east by north and west by south. The steamer Baraset of the Harrison Line, went aground below Raipur, but floated and got off on Sunday. Whether the occurrence was due in any way to the earthquake does not appear. No damage, to speak of, was done to the Hughli Bridge. A few chips and splinters were knocked off and the bridge on Sunday was closed on one side for the repair of these trifling injuries.

A telegraphic message has been despatched by the Commissioner of Police to the Viceroy, at Simla, intimating that extensive damage has been caused to house property in Calcutta.

AN OFFICIAL RECORD

An official report goes to show that no fewer than 125 buildings in the southern division of the town have been more or less damaged. In Chowringhi twenty three buildings have been damaged, including the Museum, eight in Park Street the same number in Theatre Road and Elysium Row, and ten in Royd Street, exclusive of the thana, which is also considerably damaged. Three or four houses have been damaged in each of the other streets which branch off from Park Street. The buildings occupied by the Doveton and Armenian Colleges in Free School Street are also included among those damaged. The Commissariat Bakery at No 6, St George's Gate and Prinsep's Ghât have suffered considerably. Nearly every building in the southern suburbs has been reported to be damaged, while in the

northern suburbs the destruction of property is comparatively less. There are twenty houses seriously damaged in Cossipur, four in Chitpur, three in Ultodangah, and sixteen in Bellahatta, while in Calcutta eight out of every ten buildings have suffered badly.

A very common form of damage was the separation of a portion of a house by a crack which extended right through walls and floors and roof. The severed part in some cases, as notably in Dr. Feldstein's house, fell in ruins to the ground. But more often it held its own, and the cracks remained to show that the part was unsafe. This happened to the Deaconess Home at the corner of Dhurenmtollah and Wellington Street, where the terrace and porch became detached from the rest of the buildings. The Rev. Mr. Henderson happened to be on the terrace, and when the fissure appeared, he watched it widen to six inches and close again several times as the house rocked to the earthquake. till he heard and saw the crack of Dr. Feldstein's house, and taking warning fled to a safer place.

be set in motion for some time, and the weights have fallen to the ground

The Bishop's Palace is in a worse condition than was at first supposed. The ponderous pillars show signs of the severity of the shock, and the building will have to go through a process of thorough overhauling.

The Cathedral clock will be greatly missed, as it will be some time before it can be repaired. Servants and the poor in the locality are loud in their cries at not being able to tell the time by day or night. Periodical riots among the punkah coolies are new an incident of the locality. These are disputes among the men over the duration of their spells of labour.

The Lall Bazar Police Office has been declared unsafe for occupation. Mr. Paget, the Deputy Commissioner, who was residing there, has removed.

Orders have been sent to the Executive Engineer, Public Works Department, to inspect all public buildings and Government offices, while the owners of the buildings used as thanas in the town and suburbs have also been directed to inspect and report upon their condition. The Coroner's Court has been declared in a dangerous condition, and all inquests for the present will be held in the Calcutta Police Court.

The pile of buildings on the Esplanade in the occupation of the Military Department of the Government of India has been so badly damaged that it is pronounced to be unsafe, and will have to undergo a thorough overhauling. The large structure, on close inspection, will be seen to be cracked from top to bottom, the west wing in particular being a complete wreck. The establishment removed to the Military Accounts Department at Kula Ghat yesterday.

The Mint, in the Strand Road, North, has escaped injury. At the present moment the Master of the Mint is one of the passengers from Darjiling who have been stopped at Siliguri.

THE HIGH COURT CLOSED FOR TWO DAYS

Yesterday morning the Advocate-General appeared before the Chief Justice and Mr. Justice Banerjee, and said that

the Original Courts could not sit, as none of the witnesses had come to Court, and his lordship knew that without the witnesses the business of the Original Courts could not be conducted. With regard to the Appellate Courts he might say that, although they did not require witnesses or clients to be present in Court, the major portion of the mukhtars were absent. The High Court building was in a really dangerous condition. The northern and southern verandahs were likely to come down at any moment. It was, therefore, the desire of the profession that the Courts should remain closed for a couple of days. One particular reason was that everyone was anxious to go back to his own house to look to its requirements. For his own part he was really anxious to go back, as his house was very seriously damaged. The Chief Justice—Yes, Mr Advocate-General. I wrote a letter this morning to the Public Works Department requesting them to examine the building, and to see to its requirements, but I have not received any reply as yet. However, I do not like to do anything myself. I shall send a note round to all the Judges for their opinion. And the consent of all the Judges having been obtained, the Chief Justice said. If it be the general desire of the profession that, owing to the disastrous effects of this calamity, the Courts should be adjourned for a couple of days, I cannot but feel that the request is reasonable. I am generally reluctant to close the Courts, because, from the state of business of the Courts, the disposal of cases would be very much retarded thereby, but under the special circumstances mentioned by you, we will adjourn the Courts till Wednesday.

THE SOUTHERN DIVISION

Contrary to a report that gained currency the General Market has not suffered in any material way. One or two outer corner pillars to verandahs have caved in, but there has been no inconvenience felt, or stoppage in business. The Opera House over the way is intact. In the street east of the market, beyond Lindsay Street, there is one bad collapse,

the entire upper storey of one building having come down. Fortunately, the inmates had left at the first shaking. All over the town the danger is felt to be greatly enhanced by the soaking rain that has since fallen. All the cracked buildings are leaking like so many sieves, and if the rain continues there is little doubt that some of the damaged property will come down. The demand for builders at present is greater than has perhaps ever been known in the annals of Calcutta.

The bicycle show rooms of Messrs. Walter Locke and Company were much damaged. A wall collapsed, burying with it about fifty new bicycles, exposed for sale. But the *débris* was soon removed, and the machines were rescued. The upper flat occupied by Mr. Bradshaw swayed very much, and it was thought that every moment it would collapse. But it stood the severe shock firmly as did the inner porticos. The huge glass cases of the central hall were untouched.

The upper portion of the bungalow of the Principal of Bishop's College has been damaged greatly. The Rev. Mr. Nanson is away at Massurie, but Mr. Chippendale, one of the Professors of the College, who occupies the lower flat, describes the building as having rocked a good deal. The College buildings are also cracked in places.

Although the top floor of No. 5, Government Place (Messrs. Thucker, Spink's) has suffered, the building has been pronounced perfectly sound and no interruption in business has taken place. The business premises have not suffered. We are also glad to say that, although Messrs. Traill and Co.'s house has been wrecked, the business premises are all right, and business is progressing as usual.

The house occupied by the Rev. Mr. Luckman in Chowringbi has been badly shaken. Not a room in the upper flat is free from damage. The second flat has also suffered but in a less degree,

The fall of the top of the spire of Wellesley Square Free Church, strikes every beholder as an extraordinary effect of the earthquake. The explanation is that that part was blown away in the cyclone of thirty years ago, and was restored. This earthquake has shown that the join was not as sound as it looked.

SURVIVAL OF THE UNFITTEST.

A drive along the ancient and crowded Chitpur Road shows many damaged houses and many unaccountable survivals. The great mosque on the west side, not far from Coolootollah Street, has a wide cleft right through the dome and extending downwards nearly to the bottom of the building. The two places belonging to the Mallick brothers, near Beadon Square, have lost large pieces off the parapets and cornices, and the huge clock which adorned the western mansion has fallen bodily out of its case. A woman walking in the street was badly injured by the falling masonry. So much masonry fell along Chitpur Road that it can scarcely be that several other persons were not knocked down; but the keepers of the shops under the damaged buildings are reticent on the subject. On the other hand, many an old verandah or gallery, so rickety-looking that its existence year after year has seemed like a miracle, has stood the shock without losing a brick.

The tall newly erected tenement houses in Harrison street have mostly escaped injury.

when the ominous sound and the shaking walls made him adjourn into the street. There a crowd of natives had already rushed together, and were watching the water in the large tank in the square, which looked as if a whale had been frolicking under the surface. Turning round and looking at the house he had just left, Dr Macdonald observed it rocking to and fro to the space of fully a foot from the perpendicular, and for a minute or so expected to see it come down in total ruin. Duff College, in Nimtollah Street, has the roof cracked through, and all the front part, specially the class rooms on the top storey, has suffered serious damage.

A lady and gentleman driving along Amherst Street which is a very long street, were quite unconscious of the earthquake, and did not actually see anything fall. But they remarked that a number of houses had *recently* been damaged. At one place a crowd had gathered, and men were excitedly clearing away the bricks. This afterwards proved to be the place where the most fatal casualty of the earthquake occurred.

Messrs H and A Berens write to us correcting the statement that their premises have collapsed, although somewhat damaged in parts. The necessary repairs will not in any way prevent the firm from carrying on their business.

Dr Hemford's quarters, at the General Hospital, have been badly damaged. The Eden Hospital has stood the test remarkably well, as also the several other new buildings surrounding the institution.

St Joseph's Free School in Bow Bazar Street went through a stirring experience on Saturday evening, and the Christian Brothers in charge were compelled to take shelter in the magnificent buildings of the High School, which were recently built on the south of the old building in Gopee Mohan Bose's Lane. St Joseph's is cracked all over, especially on the entrance portion, which is in a dangerous state. The chapel in front has fared almost as badly, and Father Goffart, and some of his parishioners, who were there at the time, had to take refuge in the road. A comical accident relieved the

Street, Circular Road, and Tiretta, and reports that they have stood the test of the earthquake remarkably well. Here and there may be seen a few loose pieces of brick and mortar, and Lutchra graves have sunk, as may be expected under prevailing conditions, but no serious damage was visible from a hasty survey.

A SENSATIONAL LEAP.

The Calcutta Central Government Telegraph Office was the scene of great excitement when the shock was first felt. In a body the signallers stampeded. They scrambled out of the room, and rushed downstairs into the roadway. In the end a military signaller, Private Norris, of the Royal Munster Fusiliers, instead of following the others, made for a window which he mistook for a door and jumped out. Luckily the portico of Messrs. Octavian Steel and Company, which adjoins the Telegraph Office, broke his fall, but he rolled over and came to the ground, a height of about 15 feet, sustaining serious injuries. He was at once removed to the Station Hospital. The latest reports go to show that Norris is doing as well as could be expected. The signallers had very heavy work on Saturday night, and also enquiries from anxious friends were still pouring in yesterday.

THE SHOCK AT MONGHYR

Noted as Monghyr is for shocks of earthquake, the one experienced on Saturday afternoon beats all record for severity and damage done to property and person. For the past week the heat had been intense. The severe dust storm of Friday was on Saturday followed by a severe thunderstorm and a heavy downpour of rain at one o'clock. The storm lasted $2\frac{1}{2}$ hours. Just as it cleared up, and residents were beginning to rejoice in the delightful change from the heat, came the earthquake shock. It lasted some three minutes, and its course seemed to be from east to west. In some parts of the town it was felt more severely than in others. Pitiable was the sight to behold of many o

bungalow in the Fort and shop in the bazar after the wave had passed over the place. The house occupied by Mr. C. Kemp, on the Fort wall, has utterly collapsed, the verandahs and porticos of the Collector's house, the post office Mr. Roberts' house, and the house of the Subordinate Judge have been severely damaged and rendered unsafe. Lall Darwaza, Baadeopur, and the mission house have been damaged. The west wall of the racquet court at the Club is also damaged, while the English Baptist Church in the Fort is a total wreck. It was a fine building, erected at a cost of nearly Rs 40,000, and had been lately renovated. The business portion of the town that has suffered most is Shorman Bazar. What was once a busy place—sweetmeat shops, silver-smiths' shops and Marwari stores and residences—is now a heap of rains. In Buni Bazar, the residence of Rai C. P. Singh, Bahadur, has suffered terribly. Last night the family slept in tents on the Maidan. The Chowk has suffered also. The appearance of the town as I passed through it this evening was as though it had suffered a severe bombardment. Few residents slept in doors last night, preferring the apparent security of the Maidan to the risk of being buried alive—as another shock was predicted for midnight. The mosque in the Fort, and the tomb of the most popular of Mohamedan saints, Pir Nuja, near the south gate of the Fort, have been damaged also. Up to the present no deaths are reported neither are there any residents reported as missing, though many have been injured more or less severely by the falling debris. The Marwari, whose limbs were amputated, is reported to be doing well.

DAMAGE AT JAMALPUR.

The severity of the shock can be judged by the destruction of the well-built houses belonging to the Railway Company at Jamalpur. Nearly every two-storeyed house at Jamalpur has come to grief,—in some instances the roof has fallen in, in others the walls are split through and through. The Railway station roof has been severely shaken, while

the workshops are also in a bad way. Many people for the night found shelter at the Institute. There will be a difficulty in finding quarters for those who are homeless. Many are the tales of hairbreadth escapes.

AN EARTHQUAKE FOUNTAIN

At 4.50 on Saturday evening, the 12th of June, the civil station of Purneah was visited by a very severe earthquake. The oscillation was north and south and lasted for two or three minutes, the vibration lasting for 23 minutes. Half a mile to the north of the station the ground opened out about six inches wide, running east and west for about a quarter of a mile in length, and water was ejected into the air from the crack. Trees were violently agitated. Many houses are in ruins, especially the two storeyed houses, walls have tumbled down, and roofs tumbled in. No lives have been lost in the station but two people are said to have been killed in the city, where also there has been great destruction of houses. The station clock—the pendulum of which swings east and west—stopped at 4.50.

DAMAGE TO RAILWAYS

Telegraphic messages poured in yesterday at the Sealdah Railway Station from officials along the line, as to the effects of the earthquake. Besides the damage caused to the permanent way, several bridges have been so severely shaken as to render the passage of trains for a considerable time altogether impracticable. Scarcely had the authorities begun to repair the damage when news of a still more alarming character reached headquarters by wire, namely, that a second shock of greater intensity than the first had been felt on the Kanna Dharla section of the E. B. S. Railway at 6.55, Calcutta time, resulting in great damage. The station master at Bogra Hât telegraphed that the permanent way and the huts of the native workmen were seriously damaged. The station platform itself was also reported to be so badly cracked that it was expected at any

moment to be levelled with the ground. Traffic has been suspended, causing no small amount of loss and inconvenience. Meanwhile the authorities are redoubling their efforts to repair the lines as expeditiously as possible, and already a good deal has been accomplished

ANXIOUS ENQUIRIES

As was to be expected there was a great deal of anxiety among people who had friends in other parts of the city, and both on Saturday night and on Sunday morning hurried visits were made to inquire how the friends had fared. Not a few persons took train on Sunday for places along the railway where they had relatives residing. A report having got abroad that the Calcutta Girls' School had fallen in, whole or in part, inquiries were made there by parents of pupils. But the Superintendent was able to say that that fine building had suffered no injury whatever, not even to the plastering.

At Hooshtea, the station building has been badly damaged and two or three pucca houses have been ex partially destroyed. No damage was done to the country boats. At Coomarkhally and Khoksa some buildings are ruined.

News had reached Calcutta from Purneah that several Government Telegraph posts have fallen, and that all messages have now to be transmitted by Railway. The Post Office fell a total wreck, but happily no one was killed.

The damage caused in the northern and central sections of the town has been very great. The central section especially has suffered most severely. It is mainly inhabited by Europeans and Eurasians, most of whom have been practically rendered homeless. Grave fears are entertained as to their safety, and a large class is certainly reduced to living under the most painful and straitened circumstances. How the women and children can support the conditions of their present camping life is a wonder. The rain poured in torrents on Sunday evening and as a consequence the damaged houses have been rendered still more risky. The poor people expected that they may come down at every moment. And yet their

only alternative from sleeping out, with scant protection from the rain, is to creep back to the shelter of their shattered homes

A VANISHING POST OFFICE

A severe earthquake shock was felt at Baxar on Saturday, 12th June, at 4-20 P. M. (Railway time) It appeared to last three or four minutes. No damage was done beyond the fall of a servant's house in the bazar. Several long cracks in the ground have been noticed, one in the compound of the Jail Superintendent's house is 100 yards long and has split up a pukka tennis court. It is said to be twenty years since so earthquake has been felt in Baxar.

Startling news has reached Calcutta from Shuastaganj in the Chittagoag district. The Post Office such as it stood, and was buried with all its fittings, furniture, cash chest, etc. There was no one at work at the time, and the house was empty. In several places the earth has cracked and water is seen rising from the ground. Quite a pond has seized the town.

At the end of to day's Simla weather telegram occurs the following note—No telegrams have been received from Assam and North Bengal, which are probably the centre of the earthquake wave which was felt over a very large area extending west to Bombay and Simla. The time of the occurrence was about 4-45 P. M. (Railway time)

EFFECT OF THE RAIN ON DAMAGED BUILDINGS

As might have been expected, the rains following the shock have considerably widened the cracks and fissures in nearly all the affected buildings in Calcutta, and it would not be at all surprising if before many hours elapse many of these structures will cease to occupy the position they have hitherto done. An instance of this was afforded yesterday, when the building known as the Old Church Girls' Parochial Home adjoining the Coroner's Court in Bow Bazar Street, partly

gave way. The noise caused by the widening of the already cracked walls and the displacement of mortar and plaster, caused quite a panic among the children, and there was a general rush for the road. A large crowd of spectators assembled on the spot, and Inspector Frizool having arrived on the scene warned the teachers not to attempt an entrance. Accordingly the day scholars were sent home, while the boarders, who are mostly orphans, were marched to the Old Church Mission rooms where they have been temporarily lodged.

About 3.3 p. m. yesterday during a heavy shower the whole of the main frontage of a two storeyed building at the corner of Canong Street, opening on to Strand Road, came down without a moment's warning, and considering the congested state of the traffic at that point, the wonder is that there was no fatality. The falling debris carried away several small shops which have been for years past doing a thriving business in the sale of native sweets, parched gram, betelnut and soda water. The terrified shopkeepers fled in a body, never even once turning round to note what had been the fate of their stock in trade.

THE SOUTHERN DIVISION

The office of the Meteorological Reporter to the Government of Bengal, in Russell Street, has been very badly damaged. The whole of the second flat of the building is partially wrecked, especially the walls of the rooms facing south and the verandah. Mr. Little's bed room is in a dangerous condition: the walls have parted, and huge blocks of brick and mortar have come down, to the detriment of furniture and fittings. The room adjoining to the west is a mass of ruins, and will be required to be rebuilt. On the floor of the verandah there are cracks about three inches wide, while the portico facing the north looks as if it would crumble to pieces. Mr. Little has had to move into other rooms. Fortunately Mrs. Little and the children had gone home only the other day, for they occupied the bed room that has suffered so

much Mr Little was one of those who did not feel the sensation of the shock, for he was out riding that evening. The building is the property of Mr Ezra.

Mrs Walter's boarding house, No 9, Russell Street, has been completely wrecked, and will have to be taken down and rebuilt. There were several ladies and gentlemen lodging there at the time, and a Mr. and Mrs Bent had a hair-breadth escape. They occupied rooms facing the north, adjoining a hall which gave way and fell right through, coming down with great force. Mr and Mrs Bent rushed below, and a second or two later their room came to grief. The boarders have lost a good deal of property through the walls falling in, and the place is now deserted. The whole of the back portion has collapsed.

Many of the houses in Kydd Street are tenantless at the present time, and it is feared that on account of the antiquity of these partially demolished structures they will have to be rebuilt. Some of these premises are known to have been standing for more than a century, and though with quiet usage they might perchance have withstood time's ravages for another fifty years, it is hardly to be expected of any building past its hundredth year that it should rear its head proudly erect after such a shaking as that of Saturday. The wonder is that there should be any building at all standing, and it speaks well for the thoroughness of the work of the early builders of Calcutta.

No 32 Chowringh has been very badly shaken. Mr and Mrs Daniel were away at Simla, but Messrs Westall and Brown, who were staying in the third floor, had a narrow escape. They were getting ready to go out when they found their dressing rooms giving way on all sides. They rushed out, and after the shock it was found that the place was uninhabitable.

NORTHERN DIVISION

The premises of Messrs George Henderson and Company in Clive Row have been very much shaken, and the few clerks

who were on duty on Saturday afternoon describe the rocking of the building as "sickening." The front walls have completely given way, and parts are in a perilous state. The roadway in front has been fenced in, and a policeman is on duty to prevent people from going too near. The walls at the west end have also come to grief, and on all sides in the interior are to be seen gaping archways and broken cornices. The house of Mr. Stuart, the senior partner, which is on the top floor, has also been much damaged.

In reply to many enquiries, we are glad to say that the *Englishman* office, No. 9, Hare Street, has escaped wonderfully. The house is one of the oldest in the central part of the town, and has from time to time been added to considerably, while the printing-press covers a large area to the rear, extending, parallel with the Foreign Office, as far back as St. John's churchyard. On Saturday, the shock was severely felt in this quarter, but beyond some rather bad cracks at the eastern end of the house, and the dislodgement of large chunks of plaster, no damage seems to have been done. Houses in the neighbourhood have not been so fortunate. Several in Garstin's Place and in Hare Street itself have been seriously injured. One house in Garstin's Place has had to be abandoned, and a massive outer staircase at the corner looks as if it must fall bodily. On the north side of Hare Street the great pile of the Small Cause Court was not in the least affected. The Court is a comparatively modern building.

The Old Church School in Lall Bazar has been so severely shaken and damaged that the School Committee has thought it advisable to close the institution. The Bow Bazar Vernacular School, which was to have opened yesterday, has allowed its pupils an extension of a week's vacation on account of the state of the school premises.

Messrs. Duncan Brothers' offices in Clive Street are in a bad way, the roof being badly shaken and the leakage during the rain yesterday causing great inconvenience.

Captain Petley has made over every tent in his possession for the use of the sufferers, and proposes to construct as a temporary measure small mat bungalows on his grounds for the use of those in need of shelter free of charge. He expressed his regret to our representative that he was not able to provide house accommodation to a more appreciable extent.

WRITERS' BUILDINGS

These magnificent buildings show traces of the violence of last Saturday's shock, especially the eastern wing, where not a wall nor a room from the very lowest to the uppermost storey has escaped damage in some shape or form. There are a number of ugly, in fact dangerous, cracks, which if not attended to in time will widen beyond all doubt under the enormous weight of the roofing. The heavy rains have flooded many of the rooms. The Superintendent of the Press Department has been forced to abandon his room.

EFFECT ON HORSES AND DOGS

Amid all the destruction of property and the regrettable loss of life there has been, so far as we have been able to ascertain, very little loss of animal life. As with individuals, there have been some very narrow escapes, horses just being led out in time, and in some instances frightened animals bursting their head stalls and bolting for dear life. One of the sights after the shock was to see, sometimes a solitary horse, sometimes a string of horses, nervous, agitated beasts, being led along the roads. It was fortunate, perhaps, that the shock happened just when it did for many horses were being ready for the evening drive and syces were in close attendance. This is probably the explanation of so few animals being hurt amid the large extent of stable wreckage. One poor beast at least lost his life, and that was a valued bull terrier belonging to Mr E. V. Westmacott, of Elysium Row. The verandah of Mr Westmacott's house came down, and a portion of it fell upon the dog's house and smashed it, killing the dog.

THE JUTE MILLS

The Calcutta Jute Mills do not seem to have suffered any serious damage during the earthquake of Saturday, beyond a few cracks here and there. The Samnagpur Jute Factory, the Tittaghar Jute Factory, and the Victoria Jute Factory, whose agents are Messrs Thomas Duff and Co., stood the shock very well. The damages were of the most trivial description, and everything appeared to be in good order on the following Monday, when work started as usual. Messrs George Henderson and Co.'s three mills—the Barnagore Mills, Watson's Patent, and the Bally Mills sustained no damage of any description, due no doubt to the excellent manner in which they are kept up. The working of the mills was resumed as usual the following Monday. The Union Jute Mills and the Standard Jute Mills of Messrs Bird and Co. fared very well, no cracks or fissures of any description being visible on any of their buildings. Messrs. Anderson, Wright and Co.'s jute mill at Khurdah was equally fortunate, and work was started as usual on Monday. Messrs Gordon Stewart and Co.'s mills sustained very slight cracks here and there. There was no damage done to any of the Calcutta mills of Messrs Andrew Yule and Co., but the tall chimney of the Serajganj Mill in the Pabna district was badly damaged, and big fissures also opened out in the ground at the spot, some of them four feet wide.

DAMAGE ON TEA GARDENS

Enquiries made yesterday of the leading tea garden agency firms in Calcutta reveal the fact that considerable damage has been done to garden property in Assam, Cachar, and the Duars. The factory and buildings at the Amluckie Estate, Assam, have been seriously damaged, the Cutlacherra garden in Cachar is in a similar plight, so also the Bulla Barria property in the Duars. In Sylhet the damage to gardens, machine houses, and factories has been general and very severe. The Balasera tea garden has fared worst of all, and is reported to be completely wrecked. In Cachar two bunga-

lows at the Doloo garden have collapsed entirely, the factory house being badly damaged. The pucca bungalow at the Nagasoree tea estate in the Daars has been demolished.

From telegrams received by Mr. Little, the Meteorological Reporter for Bengal, it appears that the earthquake was very severe in Assam. Telegraphic advices received from Saloua state that brick buildings and several bungalows in the occupation of planters have been overthrown, and that the destruction in general is the first of its kind known in those parts.

At Serajganj the shock was terrible. The Munsiff's Court buildings are partly in ruins. The wind vane has been thrown off its position with the pillar. The anemometer remains steady, but is inaccessible. The earthquake occurred at 5 13 P. M., and deranged the reading of the maximum thermometer, which was read as low as 80° and therefore rejected as unreliable. The shocks were felt on Sunday at intervals 4

From Bogra we learn that the Meteorological Office there has sustained much damage. The anemometer wind vane has been destroyed, the barometer has fallen, and the thermometer is out of order by the shock.

STRANDED ON A STAIRCASE

Several narrow escapes have been reported from Howrah, but the position of one family on Saturday evening was perilous indeed. Alarmed by the first shock the whole family beat a hasty retreat, but while descending the stairs from the upper storey part of the house collapsed, and with it the bottom portion of the staircase. The little company was stranded upon a landing and unable to go forward except at the risk of breaking their necks, yet fearing to go back because of the probabilities of premature burial. Luckily there was no further shock and the family were quickly rescued from their awkward position by means of ladders and their neighbours' assistance.

ON THE ASSAM-BENGAL RAILWAY.

AN "ACT OF GOD "

[FROM A CORRESPONDENT]

Comilla, June 13.

"An 'act of God' occurred here yesterday afternoon," telegraphed a local station master, in his quaint way hitting off the situation to a nicety. A few more "acts" and the Assam Bengal Railway, which has naly risen to the dignity of passenger traffic from Chandpur to Karimganj within the last month or two, would have been literally cut off in the heyday of its youth. We all know the Assam Bengal Railway herabouts—I am not speaking necessarily of Comilla, from which place I am writing at the moment—and we all love it, and laugh at its eccentricities just as fond parents behave towards their favourite spoilt child. How we used to smile to see the diminutive train carefully picking its way through the *fari* near Shamsnagar, and how concerned we were when the difficulties it encountered there proved too much for it, and it quietly turned over on its side and took a nap until the necessary repairs had been executed. Then at Srimangal what fun it often was to see the engine careering down the incline sorely unconscious of the fact that it had left its complement behind it. I say we are all familiar with these amiable little weaknesses of the Assam-Bengal line, and it was, therefore, with an indulgent smile that I suddenly woke up near Shaistaganj from a nap on Saturday afternoon—I was travelling by the down mixed train—to find that we seemed to be descending into a deep hollow after the style of the switchback railway. This was followed by sundry bumps, and finally, with a groan and a shiver, the train came to a standstill.

"What a humorous little railway it is!" I cried for the hundredth time that day, as I took a flying leap out of the carriage window after a young official in the Traffic Department, who happened to be travelling by the train, and who seemed to appreciate the fun as much as I did. We went up the line and found the engine completely derailed,

played by the Assistant Engineer. At one station a telegram was handed to him informing him that his bungalow had been destroyed. "Heavily nuisance," he observed, with an aggrieved air, "I've seen it cave in in a storm, but this is the first time it has played me such a trick on account of an earthquake." We got into Akheura about mid day, or something like twenty hours behind time.

ALARMING REPORT FROM JAMALPUR

The earthquake which occurred here at 4.30 and ceased at 4.35 on Saturday afternoon came with no other warning than a muffled rumble like the sound of a train passing over a bridge some distance off, the earth wave heaved and swelled and set the whole earth in an undulatory motion. Houses were seen to sway and in a momentary pause a crack was heard and down came the tottering piles. Jubilee Point Hill with its stack of sleepers, coal and other combustibles, ready for the Jubilee bonfire, scattered and cast these materials quite a hundred yards from where they were heaped. The East Indian Railway workshops sustained incalculable damage. The boiler shop was almost wrecked, while the erecting shop had the walls facing east and west knocked down. The pattern shop suffered a similar fate, and the west end corner of the blacksmith shop collapsed. The spring shop met with heavy damages, the furnace chimney was deflected. The two storeyed buildings on the west of the Moughyr line and those situated on the opposite side are wrecks, it needing only a substantial shower or cyclonic wind to complete the work of destruction.

Mr W Nelson Littlewood, the Travelling Auditor, had a miraculous escape. He was sitting in his room writing when he felt the building sway and crash, and had scarcely time to quit the upper floor and gain the compound, when the roof sank, sending up clouds of dust. Every article of furniture has perished. Mr Brown, the Deputy Loco Superintendent, has also suffered serious loss, his bungalow having collapsed in parts. The Loco Superintendent's and Drawing Offices

have been rendered almost untenable Mr Watkins' bungalow has suffered The verandah, which runs all round the house, has totally collapsed

Altogether we know of twenty five upper roomed buildings which have partially collapsed, the occupants of which are homeless—at least until the authorities are in a way to tide over difficulties The bellry of the Mechanics Institute has received a rough shaking, and the wonder is that the entire structure was not destroyed

During the shock the streets presented an extraordinary spectacle Many ladies and gentlemen, in all states of dress and undress, rushed out of doors and stood under the trees, Apprentice lads ran like mad in all directions on the maidan, and ladies too were to be seen jumping the wire fences in their haste to get into the open Mr Burgoyne had run downstairs with his wife and family, to discover that he had left a little girl behind In a few strides he was into the house and upstairs and had caught the child in his arms Just as he emerged from the house crash went that very part where the little one had been playing a few seconds before It is heartrending to behold the hardships to which the residents of this station are reduced What could be more pitiful than the sight of mothers, fathers, and helpless children walking from place to place seeking shelter, and glad at times to settle down in the servant's quarters?

As I write the most intense excitement is felt, people will have it that a third and greater shock is yet to come The question of the moment is, how those who have been rendered homeless are to be provided for in the face of the impending monsoon?

The Masonic Lodge 1526, he it observed, has not escaped, and more than one familiar figurehead and bronze statue will be missed at the next meeting of the brotherhood Mr W H. Jones, the I P M., is deserving of all praise for his vigorous and unsparing efforts to relieve the provident distress.

FISSURES ON THE BANKS OF THE TEESTA

A violent shock of earthquake was felt at about 5 o'clock in the evening on the 12th instant at the village of Bhajandanga, Rungpur district. The shock lasted for at least one minute, and was of a very severe nature, the banks of the Teesta opening out in many places from an inch to a foot in width. About 50 feet from the river an opening extends from the river landwards for over 150 yards, about three inches in width, out of which water and sand were ejected some three feet high. There are many reports also of water being thrown up out of openings in the interior some miles from the river. The roar of the earthquake as it passed towards the north east could be heard distinctly some minutes afterwards, sounding like distant thunder from the Garo Hills, over which the wave seemed to go. While the shock lasted human beings and animals were all terror stricken, and lay on the ground till it was over.

The R S N Co's steamer Bengal was just mooring at Kallygaaj Ghat at the time and her commander reports that the vibration on the vessel was very violent and terrifying. Many articles were broken on board, and the river was in a regular turmoil while the shock lasted. The direction of the shock appeared to be from S W to N E. During the evening and night and on the next day frequent shocks occurred, but not of a very severe nature, still they were most alarming.

DAMAGE AT PABNA

Yesterday between 12 and 15 minutes past five a severe shock of earthquake lasting fully two minutes was experienced here. Most of the pucca buildings in the place have been more or less damaged and a number are in an uninhabitable state. The Judge's house has been severely damaged, and the stables attached to it came down, hurrying two horses and a syce. These were with much difficulty dug out of the debris; the syce was unconscious and badly bruised, and is now lying in all that remains of the hospital (the cholera ward). The

two storied house in which the District Superintendent of Police and Assistant Magistrate reside is also in ruins, and these officers have been compelled to take to tents. All the walls in the house are cracked and the greater part of the balustrade and roof have fallen.

The Collector's house is also in a very dilapidated state, fortunately this officer left for Mozaffarpur the day before yesterday, taking his family with him, or else it would have suffered. The Civil Surgeon has taken to a tent, and the missionaries to their chapel, in short, all the Europeans inhabitants and many natives are homeless. A great number of pucca buildings in the bazar have come down and quite blocked up the streets, fortunately no lives have been lost. This may be attributed to the fact that the preliminary shocks were not very severe, and served to warn the people in time for them to leave their houses.

During the night three slight shocks were experienced and several others to day. All along the dried up bed of the Ichhamati river, which winds round the town, a curious phenomenon was noticed. Mud volcanoes were formed which ejected their contents to a height of from four to five feet. One of these was active for fully an hour and a half after the shock was over. Large cracks also opened along the banks of this river and the Ganges, some of the depressions being six feet deep and 20ft wide. In add to the general discomfort, heavy rain fell during the night which damaged a great deal of the property which could not be removed from the ruined houses.

The magnificent new Court has fortunately escaped serious damage. Some of the walls have cracked and in one spot the foundation has subsided. The Collectorate offices and Jail have also escaped with a few cracks and the loss of a good deal of plaster. Nothing is known yet as to the amount of damage done in the Mofussil, but probably it is not very great as cutcha houses do not seem to have suffered.

SAHEBGANJ

A correspondent states that the earthquake was severe at Sahibganj lasting for about three minutes. It began at

16 30(Mndras time)on 12th instnt and caused serious damage to the Railway buildings and dwelling houses in the native town. The wave appeared to be from south to north, and was felt generally throughout the Loop-line district. The shock was of a most appalling nature. An earthquake of such severity has not been known to have visited these parts for a great many years. There have been three or four slight shocks subsequently, the last having been felt at about 10 p.m. on 13th instant, but with no bad results. Among other buildings the Railway station, the District Traffic Superintendent's office and Mechanics' Institute suffered seriously, portions of the two latter having collapsed entirely and been rendered unsafe. A number of the Railway staff quarters occupied by Europeans were also seriously damaged and some are now uninhabitable. No loss of life has so far been reported, although there were several narrow escapes. Thanks are due to the ladies and gentlemen of the station who kindly ministered to the wants of those rendered homeless through the disaster. Intimation has been received that the station buildings and out offices, both up and down the line, have been more or less affected, and from all accounts the calamity will entail enormous expenditure on the part of the East Indian Railway. We have had no rain to speak of but the sky is overcast with heavy clouds and there are indications of a good downpour before long, and with it the set in of the monsoon it is hoped

MURSHIDABAD WRECKED

A correspondent, writing from Murshidabad, says that Berhampar, the civil station at Murshidabad, suffered badly from Saturday's earthquake. There is scarcely a house which has not been damaged, and the destruction to property is enormous. Fortunately there were no casualties among the Europeans of the station, but there were certainly eight or nine deaths, possibly more, among the natives of Khagra and Saidabad. Had it not been for the Mohurram there would probably have been many more deaths.

The shock was first felt about 1.50 P.M., and lasted about three minutes. The cantaberry buildings have suffered very severely, the wings at either end having been utterly destroyed, and the roof of No 1 Barracks, the office of Mr. Lovidge, the Collector, has fallen. The house of Dr. Gordon Price, the Civil Surgeon, is completely wrecked, and Mrs. Price had a very narrow escape. All the other buildings in the square have suffered more or less, and most have either been or will have to be vacated. The upper storey and the whole of one side of the house of Mr. Ferguson, a silk merchant, collapsed, while the London Mission Chapel and the Municipal Office were destroyed. Several large seams are apparent in the upper storey of the Jail buildings, but the remainder of the building seems pretty sound. The same may be said of the Asylum. Considerable damage has been done to the College and the clock tower will probably have to be pulled down.

A NUMBER OF BEGGARS KILLED

A number of beggars were being fed in a house near Hari Babu's when the shock came, and in trying to escape by a narrow passage some of them were buried. One woman was extricated from the *debris* five hours after the building fell, with no more harm than a broken leg. A child has been taken out dead, and it is not known how many more are left. The woman says there were 30 or 40 persons there at the time but it is thought that this can hardly be correct. A cloth merchant was killed by a falling house and another woman was taken out dead from the ruins, while another is known to be buried under the same pile. It is impossible to say yet how many deaths have occurred.

Several of the outbuildings of the Cossimbazar Rajbari (Maharani Sornomoye's) were wrecked, and one death is reported. The Maharani and her household were uninjured. Baba Ashutosh Roy's house was badly injured, and two maid servants were killed. From the ruinous appearance of the town it is miraculous that there were not more deaths. Telegraphic communication has been stopped, and it

is impossible to ascertain how adjoining towns have fared. It is reported that nearly every house in Azimganj, where the great Jain bankers reside, is wrecked, and that eight dead bodies have been found. The Imambara at Murshidabad has been wrecked, and great harm has been done to the Palace. Mr Keogh's factory at Sajapur has been partially destroyed.

NARROW ESCAPE OF THE NAWAB.

Further shocks of earthquake were felt at Berhampur on Sunday, but they did not work any havoc. Fuller details of the effect of the shock at Murshidabad reveal that every house in the bazar was wrecked, and several persons were killed. The Nawab Bahadur had a very narrow escape, the whole room in which he was sitting falling in just as he reached the door. His escape is the more remarkable as he is quite paralysed, and was only carried out in the nick of time.

It is almost certain that the effect of the earthquake will increase the numbers on famine relief.

(The Englishman, Thursday, June 17, 1897.)

A CITY UNDER REPAIR.

SEVERAL FATALITIES IN THE DISTRICTS.

It seems as if our anticipations were to be fulfilled in the most literal sense, and that the work of destruction begun by the earthquake was to be completed by the Monsoon rains, which have regularly set in. Yesterday's heavy rain did an infinitude of harm all over Calcutta, bringing down the shattered and dilapidated portions of buildings that in some cases overhung the streets, and further injuring the property that had almost escaped the original disaster. A part of the roof balustrade of St. John's Church has come down, leaving an ugly gap, and the fissure on the northern portion has widened considerably. On Chowringhi, the aspect of things has not improved. Dr. Wood's house is in a tottering condition. The front rooms and verandahs have come down, and the portico has fully three inches off the house. The drawing-room in the

second floor is a mass of ruins, the walls have caved in, and the openings in the roof let the daylight into the rooms. Here good deal of damage was done to pictures and furniture, and Dr Wood, at once taking in the dangerous situation, has removed from the premises. At No 24 Chowringhi, occupied by Mr Norman, the walls have sprung off, the balustrade has fallen upon one of the bath rooms and smashed it in, and the place is a total wreck. At the time of the shock, a young gentleman who was down with fever had a narrow escape. At his own request, he was removed to the lawn, and got clear just in time. "The Palms," in Middleton Row, owned by Mr Gubboy and leased to Mrs Monk, where eight gentlemen were putting up, has suffered. Huge cracks are to be seen in nearly every room, and the place is uninhabitable. Messrs McIntosh Burns and Company have taken the repairs in hand, but during the heavy rains the work of building and repairing is interrupted.

Workmen are actively engaged in repairing the damage done to the High Court. The part most seriously damaged is a portion of the northern verandah, which the engineer, after inspecting the whole building, has condemned, and which, it is said, will have to be dismantled. The damage to the southern verandah and the Judges' verandah are of a less serious nature, although there are ugly cracks in both. None of the Court rooms suffered any damage. The only room which sustained any damage was that of Mr Justice O'Kineely, the roof and the walls being badly cracked in several places. The tower is in a dangerous condition. All the Judges sat in Court yesterday, with the exception of Mr Justice O'Kineely, who is still detained at Darjiling.

PROGRESS OF DISMANTLING

On the Sunday following the shock, workmen were busy dismantling the tottering portions of damaged buildings. The comparatively newly built portico of Dr Feldstein's house in Dhurrantollah Street, which had collapsed, and which still proved a source of further danger, had been ex-

poditiously cleared. The rest of the building, which appears unaffected, will admit of repairs being carried out. The repairs to St Andrew's Church, which has been badly damaged, will be taken in hand almost immediately. The premises of Messrs Arlington and Co., in Old Court House Street, which have been very seriously damaged, are already undergoing repairs, as also the damaged steeple of the Church of Our Lady of Delours. Several other buildings in various parts of the town were also taken in hand yesterday for repairs. Nothing is being done yet to the Lall Bazar Police Office, the Carener's Court, and the Old Church Girls' Parochial Home, all of which have been condemned. Messrs. Moore's house, on the Esplanade, is still untouched, and complaints have been made to us of what is said to constitute a public danger.

Mr F J Shircore a pleader of the Small Cause Court, who resides with his family in a two storeyed house in Ripon Street, had to vacate his house on Saturday night on seeing that it was falling to pieces. He stayed for the night with a friend, leaving all his heavy furniture and belongings behind him. On Sunday morning he went to the house he had left and tried to induce coolies to have his things removed, but to no purpose. No one would venture to approach the premises on account of its dangerous position, and Mr Shircore, with every inducement imaginable, cannot get his furniture out. It still remains in the dilapidated house.

The Small Cause Court, which was slightly damaged by the shock, was leaning very much yesterday, so much so that Mr Ormrod, the Chief Judge, had to get his bench removed.

Several houses have collapsed in Wellesley Street. Mr C E. Descent who occupies house No 75, has been put to considerable inconvenience. Fissures are to be seen in every part of the structure, the walls being laid open from top to bottom. It is more than likely that the building will be condemned and rebuilt.

Houses Nos 50 and 51 (Wellesley Street), which have been "to let" for some time, have been completely wrecked.

House No 13, close to the Free Church of Scotland, has tumbled to pieces, and the inmates have deserted the place.

Two untenanted houses have collapsed in Ripon Street (Nos 5 and 22), and will have to be rebuilt.

PERISHABLE STOCK

Messrs Bevan and Company's piano show rooms in Old Court House Street have been very badly damaged. In the centre wall of the building there is a gaping crack, which has widened since the heavy rains. Several valuable new cottage pianos have been smashed by falling *debris*, but luckily a handsome King Louis grand, valued at Rs 8,000, the first of its kind imported into this country, escaped destruction. Messrs Osler and Company's premises stood the shock firmly. The large chandeliers of their glassware rooms swayed to and fro, but the damage to stock was slight. Messrs Hamilton and Company's handsome building in Old Court House Street was practically unaffected. The top floor was a bit shaken, but there was no damage beyond some cracks in the walls.

No great damage was done to the Roman Catholic Cathedral at Moorhyhatta or to the Cathedral House. The building which has suffered most severely seems to be the Catholic Bow Bazar Chapel, the one which was marked out for demolition and enlargement. St Agnes's Day School at Howrah, which is only rented by the Sisters, has been totally wrecked.

The Bible Society's building in Chowringhi, though a comparatively new one, has suffered badly, and it is closed in by half ruined houses.

The residence of the Maharaja of Durbhanga has suffered to some extent. Inside, the archways have opened, and the reception rooms have suffered. The rooms facing west are very much shaken, and deep cracks, some two to three inches wide, are visible on all sides. The house was vacant at the time.

The Theatre Royal has escaped, and indeed all the places of entertainment have come off well.

THE ALIPUR JAIL

MR LARYMORE'S EXPERIENCES

Mr A D Larymore, the Superintendent, gave a reporter the following account of the Alipur Jail during the earthquake —The main walls and the outer walls have stood the shock wonderfully well, considering that this is the oldest building in the city, our records going so far back as 1797. The walls surrounding the wards have become cracked in many places, and in one instance the walls have fallen, but in no respect has there been risk to either the safety or the life of the prisoners. One of our employes, who resides at the back of the Jail, and who was away from home at the time, received a message to the effect that his wife was dangerously ill. He hurried home, and found that she had fainted in endeavouring to get out of her house. Friends having heard of the occurrence rendered her assistance. I myself had gone up to Mr Fuchs' on a bicycle to enquire about a sick horse. I reached the General Hospital gate as the Cathedral clock struck five and probably was in Mr Fuchs' compound within three minutes from that time. On arriving at his portico I heard the falling of bricks and plaster from the walls and roofs. I also saw clouds of dust coming out through the windows. When I came out I heard that an earthquake had taken place. At this moment a lady rushed out with a child in her arms and called for us to come away, as the house was falling. I joined her in the compound, to which place two gentlemen from their houses had also come. I now observed that the earth was shaking badly. I heard a loud report, and a syce shouting out that the church had fallen. The horses were now released from their stables and seemed in a great state of excitement. The dogs barked, and the pet kangaroo leaped about in a frantic manner.

A few minutes after that all was calm and still, and I felt nothing more. Re-mounting my bicycle I now proceeded to the Cathedral, and there found that a large portion of the

spire had come down. One of the clergymen had already arrived, and told me that he thought there was going to be another earthquake. He asked me if I had been inside to see what damage had been done. I said no. I am inclined to think, and have since come to the conclusion, that unless the earth actually opened, the bicycle is the best thing to be on in an earthquake.

Since the earthquake I have had information from a large number of jails and sub jails to the effect that much damage had been done to them. In many instances the outer walls were thrown down rendering extra caution in the matter of guarding necessary. But so far as I have been informed not a single life has been lost.

MY FIRST EARTHQUAKE.

[FROM A CORRESPONDENT.]

My experiences of the recent seismic convulsion were, I fear, very tame. It was my good fortune to be on the Maidan, about 200 yards from Chowringhi, when the terrible event took place. For the first couple of minutes I could not make out what was the matter with me, as I veritably reeled to and fro like a drunken man. However, the disturbance made by falling houses in Chowringhi soon brought me to myself, and I thought: "Well, I suppose this must be an earthquake." It may have been imagination, but I thought I distinctly saw waves rolling across the sea of grass. By the time the two last shocks—and worst of all—had knocked me about, I felt extremely squeamish, not to say ill. It was my first and I hope my last experience of an earthquake. And yet a friend of mine was also on the Maidan, and was quite unaware that anything had taken place, until he returned to find his house in rather a dilapidated state, which, to say the least of it, is very curious.

AN UNREASONING IMPULSE

My experience (writes another correspondent) may add something to a stock of accumulating information that

is appearing in the *Englishman*, and may help to render it a still more complete record of the event. First regarding this preceding noise I was standing by a wall and heard the never to be-forgotten sound just as in 1883. I never even stopped to think. I know what it meant. Being entirely alone, I was out of the room, down a passage and across a landing on to the stairs, seventy-nine, to get down, so good cause for haste, before any real vibration even commenced. This was an unreasoning impulse which I cannot explain, for none could anticipate the severity of the earthquake. Secondly, as to the movement of the ground I was standing in a group where the trams stop in Chivo Street. At the first actual wave we all recoiled, and I was caught by a Bahu. Afterwards we were all awaying in unison as on the deck of a steamer.

DEATH OF A ZEMINDAR

MALDA.—The earthquake shock was felt very intensely in the district, and has caused immense damage in the towns of English Bazaar and Old Malda where nearly every pucca house is in ruins. On the Dearah lands all over the district large cracks have formed on the ground, from which water was thrown up during the earthquake, and in many places the ground has sunk several feet, near Ohunchol, a field covering some nine or ten bighas has sunk. In English Bazaar the Government buildings are all seriously damaged, almost the entire upper storey of the cantchery building will have to be demolished and the Circut House is also in a ruinous condition. The Magistrate's house and District Superintendent's house are practically in ruins, and the officials are all living in tents. Some five or six deaths only have occurred, and this is due to the earthquake occurring in the day time. Bahu Bhagaban Chandra Chaudhari, the principal zemindar of English Bazaar town, was buried in the ruins of the house and the body was not recovered for several hours. Bahu Ram Narain Bannerji, Deputy Magistrate, was seriously injured by the ver

andah falling upon him as he was helping his wife out of the house. Some ten or twelve small shocks have since occurred and shocks are still occurring

JAMALPUR.

At about 4-30 P.M., on the 12th instant, just after the first heavy downpour of rain this season, which came as a welcome tribute to the parched earth and suffering humanity, without any premonitory warning whatever, a peculiar subterranean noise was heard, striking all the inhabitants with dismay, and in less than eight minutes our pretty little station had borne the shock of a severe earthquake and showed signs of devastation deplorable to witness. At the first sign of alarm, there was a general stampede towards the open, and for 7½ minutes the inhabitants had to endure the convulsive motion of the earth and to witness the crash of falling buildings round about them. The locomotive workshops and offices have sustained considerable damage, the earthquake having seemingly concentrated its principal action upon the high buildings in the station, all of which exhibit unmistakable proofs of the severity of the strain upon their stability they have recently undergone. Although the escapes from death were so many cases marvellous there were fortunately no casualties, due no doubt to the workshops having been previously closed at 12 o'clock —H. F.

DILDUAR.

A most severe shock of earthquake was felt here at 4 P.M. which lasted fully 4½ minutes, causing serious damage to the houses of the resident zemindars. Mr. A. Ghazman, a zemindar of the place, was holding entcherry, and he had hardly time enough to get up from his chair and escape outside, when two walls of the building fell down completely crushing chairs and all. The house next door, belonging to another zemindar, Abul Rohman Khan Chowdhury is completely wrecked. Yet another house to the south of it, belonging to another zemindar, came down *entirely*. The earth has been rent asunder, and

sand and hotwater have been forced up to the surface from a depth of 15 to 20 feet. No such earthquake has occurred in the memory of any living man here. The shocks have not yet ceased. We have been having smaller shocks up to now. The country folks fully believe the world is coming to an end. Fortunately no life has yet been lost, but the whole place is in a state of perfect panic.

KRISHNAGAR.

The houses of Europeans and Natives here have suffered great damage from the earthquake; scarcely a house escaped injury. The Krishnagar College has suffered very severely, the spire of the Protestant Church fell through the roof; the Collector's house is uninhabitable; only about two rooms in the Judge's house are safe. The District Superintendent's house is so injured as to be totally unsafe; the house lately occupied by the Joint-Magistrate is completely in ruins, all the verandahs and roofs having fallen; the Mission houses and the Mission school also bore the shock badly. The houses of the natives fared no better. The rains which have just set in, will complete the ruin. On Sunday there was a thunderstorm which was scarcely less terrifying than the earthquake.

BHAGALPUR.

Extract from a letter, No. 19, dated the 14th June, 1897, from the Magistrate of Bhagalpur to the Commissioner of Bhagalpur:—"I have the honour to report that a violent earthquake was experienced here about 5 p. m. on Saturday, 12th instant. The shock lasted four or five minutes. Very considerable damage has been done to house property in the town, but so far I have only heard of the loss of one life. With the exception of the church, no Government buildings suffered severely. The roof of the church, I regret to say, fell in and ruined the building. I have telegraphed to the District Engineer, who is in North Bhagalpur, to return here to arrange for the removal of the debris from the interior of the church building."

SINKING OF THIRTEEN BIGHAS.

Ghanchal, Malda —A heavy shock was felt here at 5 p. m. lasting about three minutes. It is now about 10.30 a. m., and another eleven shocks have been perceived. Serious damage is done to the pucca buildings of the local Rajbati. Out of about 140 rooms, both upper and lower floors not a single room is left without damage, and they cannot be used without risk of life. The Raja and family have been living in thatched houses. Reports received that four highas of land in Barmanijalkar and nine highas in Kahaiajalkar have sunk down. Breaks have been noticed at Shhipur, Mobarukpur and Goaria, from which water is seen rising up. Buildings at Kaligram have also sustained damage more or less. No loss of life is reported.

RANIGANJ.

A second slight shock of earthquake was felt here on Sunday at 12 o'clock (noon), not causing any damage. The buildings that suffered most from Saturday's shock were the Police Station, those belonging to the Railway, and the Government Telegraph Office, the latter particularly. All these, being of exceedingly old standing, are very unsafe. Measures should surely be taken, both by the Government and Railway, to provide safe quarters for their employes. The monsoons seem to have broken here judging from the weather the last two days. It started with thunder and lightning, the lightning being so severe that at one of the small villages here it struck three natives, killing them instantly, strange to say, a similar accident occurred last year at the same place and at about the same time, killing five natives.

ASSANSOL.

At about 4.30 p.m. there was a slight rumbling sound and then a tremor, which became more and more pronounced as the houses swayed to and fro and the doors banged. It lasted several minutes. People were rushing out of their houses in various stages of undress, which caused some amuse-

ment afterwards, and the natives were in a visible state of consternation, but that state was shared by everyone more or less. A good deal of damage has been done in the station and a native woman was slightly injured. Our dear little church was rendered unsafe for the next day's services, the side aisles suffering most. Many of the double-storeyed buildings, occupied by the railway employes, have been considerably damaged some being uninhabitable, through the rain pouring through the cracks.

I am afraid the poor Clerk of Works will have his hands full for some months to come in doing repairs, etc. Everyone agrees in saying that it was the most ruinous earthquake that they have ever felt.

SURI.

An earthquake was felt here on the 12th instant at 5 P.M. and lasted slightly over five minutes. At Suri some of the older buildings suffered, the Jail slightly, the Collector's house badly, and the Raja's and Judge's slightly. Some of the fissures were from top to bottom of the houses mentioned. In the district, so far as is known, only the masonry buildings have been damaged. The rumble began a few seconds before 5 o'clock, and the buildings continued to sway till a few seconds after 5-5 o'clock. Severe damage has been done to the Raja of Hetampur's College building, but the damage is not irreparable.

A slight shock was felt at about 1 o'clock on the 13th, but it lasted scarcely a minute, and some persons did not notice it.

PHILOSOPHICAL ELEPHANTS.

NORTH BHAGALPUR.—A severe shock passed over this part of the country at 4-50 P. M. It was felt in Madhipura, Latona, Pipri Bazar, Dumarin, Diwanganj, Partabganj, Poaluwa, and Darbhanga, covering a wide area. It created quite a panic in the bazar, interfering with the Muburrum festivities. Everywhere people rushed from their houses for safety. Pucca

buildings swayed to the extent of nine inches. Two have collapsed and many others are cracked and damaged. Many people fainted, and two died from the effects in Purbagauj. Two elephants sat down in Pipra Bazar.

PURNEAH

At Kaledurah Factory we experienced a very severe shock of earthquake at about six minutes to 5 P M, by my clock on the 12th, and there were three smaller shocks during the evening and night. We have also had four shocks (slight ones) during the day yesterday and at night. Lots of damage done to buildings. The ground has cracked, forming gaps of two and three feet, for over a mile going north and south and over a couple of square miles of country.

DOOMKA (SONTHAL PARGANAS)

A severe earthquake was felt here at about 5 P M on Saturday. There is not one house in the station which has not received some injury, the walls being cracked nearly from top to bottom. The Hospital is a wreck. The direction of the current seemed to be from east to west. It lasted for fully two minutes.

PURULIA

Another shock of earthquake was experienced in this station on Sunday, at about a quarter past twelve (Railway time). The noise was not so loud as on Saturday, and the trembling did not last more than thirty seconds.

AZIMGANJ (MURSHIDABAD)

All the principal buildings of Azimganj have been more or less damaged. The old buildings are a mass of ruins. Twelve lives were lost. A deep rumbling noise preceded the shock, which lasted for five minutes.

THE CALCUTTA SEWERS—AN IMPORTANT QUESTION.

From W. Parsaus, Esq., Secretary, Bengal Chamber of Commerce, to W. R. Bright, Esq., C. S., Officiating Chairman of the Corporation—

SIR,—I have been directed by the Committee of the Chamber to address you with regard to a matter of considerable importance to the whole resident community, namely, the question as to whether or not the underground brick sewers have suffered damage from the late severe earthquake. It appears to the Committee that, judging from the effect of the earthquake on brickwork above ground, it is at least probable that the brick-sewers below ground have also suffered severely, and it would appear absolutely necessary that an immediate and thorough investigation should be made of their condition, especially as a large portion of the under-ground sewers is now nearly thirty years old. The durability and consistency of the cement employed in their construction has repeatedly been called in question, and is, the Committee believe, admitted to be defective. It is impossible to suppose that the sustained and continuous shocks of earthquake experienced on the evening of the 12th instant, have not inflicted any damage on the brick-sewers. Fractures in the brickwork would mean, of necessity, serious leakages of sewage into the soil, and whose regard is had to the fact that the main sewers of the town are in Bow Bazar and Dharramtollah, both of these thoroughfares being of considerable length and heavily built upon, the latter fact increasing the lateral pressure on the sewers, the need for prompt action is too apparent to admit of argument, and at the present season, when the monsoon is on the point of setting in and heavy and continuous rain may be expected, the urgency of the case is still further accentuated, an extra strain being always put upon the sewers when they are gorged with water. The Committee consider that the case will hardly be met by ordinary departmental action, and trust that the Corporation will take such action, in connection

with their Chief Engineer, as may effectually prevent any injury to the health of the inhabitants of the city—I have the honour to be, &c, (Sd) W PARSONS Secretary

To Mr W Parsons, Secretary to the Bengal Chamber of Commerce Dated Calcutta, 16th June

Sir,—Yours of date to hand The matter has already attracted my attention, and I have issued orders for a careful examination of the sewers, both brick and pipe The work has been already begun, but you will realize, no doubt, that it is one which will necessarily take some time I hope to be in a position to give some information on the subject to the General Meeting of Commissioners to morrow I have also wired to Mr Hughes to return, and I will then consult him as to the further measures to be taken You may rely upon it that the matter has, and will have, my earliest attention I have the honour to be, etc, (Sd) W R Bright, Officiating Chairman of the Corporation

(The Englishman, Friday, June 18, 1897)

A CITY UNDER REPAIR.

ALARMING CONDITION OF DAMAGED BUILDINGS

It is really no exaggeration to speak of Calcutta at the present moment as a "City under repair." To every public and private building the surveyors and builders have been hastily summoned, like so many doctors in an epidemic, to pronounce sentence of life or death, and in the majority of cases the sentence has been deferred till patients, in a more desperate condition, have been attended to. Not a half, but nine tenths of Calcutta is now waiting its turn to be repaired, while the other tenth is being pulled down, lest it should crash in to the streets and kill the passers by. Never was there such a demand for builders since the world began. Everyone is naturally concerned about his own safety, and there are not anything like enough builders to go round, even including the army of volunteer mistria which as suddenly sprung up. Householders, filled with alarm by the cracked and riddled

condition of their dwellings, are by no means reassured by the perfunctory verdict of the surveyor's emissary. The houses may not be in so dangerous a state as some others, but in many instances they are far from safe, and at ordinary times would be instantly abandoned. Much inconvenience has been caused by the heavy rains, which are an immense aggravation of the evil. It is not merely a question of fearfully leaky roofs; but there can be no doubt that damage which might have been set right, if promptly attended to, is now fast becoming irreparable. In various places throughout the city the footpaths are roped off where some house is on the point of collapsing, and until extreme cases of this kind are seen to, the common crowd of sufferers must possess their soul in patience, and grow accustomed to sleeping o' nights under the shadow of an ever present and horrible danger.

We are sorry to learn that the building of the National Bank has suffered so badly as to necessitate a temporary removal, if that is possible. A request on behalf of the Bank has been made to the Committee of the Dalhousie Institute, which is said to be the only building available that would answer the purpose. It is to be hoped that the Committee will see its way to grant the use of the Institute. In a time like this,—a time of common suffering and mutual helpfulness—it would be decidedly ungracious to decline, whereas the action of the Committee will meet with the cordial approval of the public if they agree to assist the bank in its dilemma. Besides, the hall of the Institute is hardly used at all at this season.

HOUSES DESERTED IN CALCUTTA.

The Board of Revenue buildings are a mass of ruins. The employés in a body refused to enter the building till it was overhauled, and in consequence the offices have been removed to the Home Department, with the exception of the Salt and Revenue Branch, which now occupies the ground floor. The whole place is falling to pieces. The building is about a century old. The Chartered Mercantile

Bank has been badly shaken. The north wall is hanging away from the building, and will probably have to come down. The archways and rooms on the top floor are cracked all over, and the place is leaking fearfully. Messrs Kellner and Co. is badly damaged. There is not a single room or archway in the whole structure that is not cracked. In the top flat wooden supports are being put up to prevent the roof from coming down. There is a huge crack in the south end of the building, running from top to bottom. Mr W B McInnis's house, No 27, Dalhousie Square, will have to be thoroughly overhauled, and is vacated at present. The Simla Alliance Bank has come off scott free. This building ranges north and south, and, astonishing as it may seem, Mr Langdon, the Agent, felt the shock so slightly that he could hardly realise that there had been an earthquake of such severity. It is probable that the position of the house may explain this.

As yet nothing very serious has occurred in the way of falling houses, but great anxiety prevails. The Moocheopara Thana has all but collapsed. The constables, about a hundred in number, have quitted the premises and taken up their quarters in adjoining huts. Inspector L O Bunnery, whose quarters are in the office room of the thana, complains of the place being flooded. A start has been made with repairing the extensive damage done to the Old Mission Church. The work was taken in hand since yesterday.

" A MASS OF RUINS "

The Marlborough Hotel in Bentinck Street, an old building, recently touched up, has been heavily shaken. Five bedrooms at the rear and facing west are in a very dilapidated condition, and will have to be dismantled and rebuilt. The walls are a mass of ruins and bulge out all the way round. The occupants had to turn out promptly. The rain yesterday literally poured in through the crevices in the roof of one of the rooms.

At Entally the Grphanage and Convent buildings have been much damaged, but although the children were much frightened, there was nothing like a panic. The Nuns kept them well in hand.

The third flat of the building adjoining the premises of Messrs. Jessop and Co., which is in the occupation of Captain Allison, Superintendent of the Sworn Measurers Department, is reported to be dangerously cracked and is expected every moment to fall to pieces. A large two-storeyed building in Weston's Lane, the residence of Bahn Golam Chowdry, of Bogra, which had been seriously damaged by the shock, is reported to be in a tottering condition. A portion of the verandah has collapsed.

Friends of the Old or Mission Church will be glad to know that though the tower has been injured and is being dismantled, the Church itself is practically unaffected. The usual services can be held without any inconvenience or risk to the congregation.

No. 76 Bentinck Street is well known to the ladies of Calcutta and the Mofussil as a dress-making establishment. The earthquake has played sad havoc with the building. Every arch has large gaping cracks, through which daylight can be seen, while the verandahs at the two ends are in imminent danger of falling away. As a matter of course, the occupiers have been obliged to remove, thereby suffering great pecuniary loss, apart from the difficulty of carrying on their business. It will be necessary to rebuild a large portion of the upper flat before it can again be safely occupied.

The Loretto House in Middleton Row has escaped wonderfully. There are several cracks in the building, especially in the south wall, which will probably have to be renewed, at least in part. The Roman Catholic Church adjoining has been cracked in several places. The steeple is injured, and part of it, it is feared, will have to be pulled down.

A double-storeyed building, No. 9 Metcalfe Street, has been abandoned. So serious were the damages that the residents were forced to pass the first night in the open air, seat-

ad on chairs On the following day they removed to a house in Circular Road

At St John's on Sunday, the Jubilee services will be offered in the morning, and the alms during the day will be devoted to the Building Fund of St Mary's House of Charity A large part of this house has been totally wrecked

WORK FOR THE SURVEYORS

At the United Service Club, there are large cracks in the verandah, off the dining room, and on the landing of the top floor, the cornices have fallen The front of the building is badly fissured The Club chambers, in No 55 Park Street and No 1 Kyd Street, have also suffered, a crack separating the verandahs slightly from the house Workmen are busy here, and matters will soon be set straight

Messrs Kapp and Company and the glassware and crockery rooms of Messrs Whiteway Laidlaw and Company have been lucky But at the former establishment, two rooms in the east wing of the second flat occupied by Mr Cohen were deeply cracked, these are being repaired Mr Kapp has secured some interesting photographs of the damage on the Eastern Bengal Railway Those will prove an interesting souvenir of the disaster

Messrs Bourne and Shepherd, Chowringhi, have been bad sufferers Hinge cracks, some inches deep, are visible on all sides of their show rooms on the second flat, as well as in the offices adjoining In one corner of their "re-touching" room there is a gaping crack running from top to bottom, and the rain has brought out much brick and mortar during the past two days In the "dressing room" there are similar damages, and the "dark" room is injured Mr Murray's dining room on the third loft has been very seriously damaged The large building in the occupation of Messrs Atkinson Brothers has been severely shaken Some walls of the top flat will have to be rebuilt, and others will have to be re-rodded In the middle flat, a portion of the verandah will have to be removed and a portion strengthened. There are cracks to be

seen on all sides, and leakage is doing more harm. Mr. A. Stephen's house, No. 18, Chowringhi, is in a bad way. But for the recent strengthening of the ground floor with iron columns and portland cement arches, to say nothing of the recently-built rooms which act as buttresses, the top floor would in all probability have collapsed. Some of the arches are badly cracked and several of the walls will have to be rebuilt.

About the only house in Chowringhi that has escaped is the residence of Mr. Hem Chander Gossain, which only shows a few trifling cracks. All the rooms are traced with tie-rods. Messrs. Macintosh, Burn and Co. inspected the premises yesterday and pronounced them as "sound as a bell." Dr. Comley's house in Chowringhi has been much shaken. The gaping walls in some parts of the rooms have widened since the rains, and there is a good deal of leakage.

A SMASH AT GARDEN REACH.

Perhaps the property of the North-West Soap Company at Garden Reach has suffered as much as any in Calcutta. It comprises a large two-storeyed house, which formerly belonged to the King of Oudh, and a modern soap factory with large chimney-stack and engine-house. None of the new buildings or the chimney are injured in any way, but the house has sustained considerable damage. The upper flat is occupied by the manager, while the lower floor is used as offices. An inspection of the building shows that the large verandahs, upper and lower, which ran the whole length of the building on the south side, fell outwards, carrying with them the roof and outer wall of an upper room behind. This room was used as a drawing-room, while the one below was occupied as an office. The roof of the upper room, which was of very heavy concrete, came smashing down on to the floor below, which in its turn broke through with the heavy weight, and the resulting amalgam was a mixture of smashed furniture, bric-à-brac, broken pictures, finely powdered concrete, office books, and splintered chairs and tables.

A piano, after various vibrations, landed in a much smashed condition on the ground floor, so that the coolies who came to remove it had not the trouble of carrying it downstairs. The rooms that remain standing on the upper floor are pronounced by the surveyor to be unsafe, and will most probably have to be removed entirely. Saturday being a holiday the office was closed, so that no clerks were present, and there was no loss of life or any injury to any one. All the books were dug out of the *débris* by Sunday night and work proceeded as usual on Monday morning.

In Garden Reach, Messrs. John King and Co's engine works have been completely wrecked, and considerable damage has been done to the property of the firm. Mr. Deveria, manager of the work shop, who lived on the premises, has sustained severe loss in the destruction of his personal property, including a valuable piano. The building utilised for the Garden Reach thana is reported to be in a dangerous state. A wall on the north side of the building has recently collapsed. Inspector Faria removed his family to the house of a friend, while over fifty police constables have been located for the present in the stables of the Army Remount Depot. The Bhowsampur Thana is reported to be equally dangerous: the staff of policemen, about eighty, run some risk of being crushed to death.

DAMAGE TO RAILWAYS

LINE AND STATION WRECKED AT NILPHAMARI

We are indebted to the acting Manager of the Eastern Bengal State Railway for the following particulars of damage done to railways —

On the Eastern, Southern and Budge Budge section the permanent way and bridges were practically undamaged, the one exception being a bridge at Panchooria, which was reported unsafe for trains. But stations and buildings suffered to some extent, the duration and severity of the earth shocks being apparently about the same over these sections as in Calcutta.

On the Northern section from Sara to Atrai, the permanent way and earthwork were not much disturbed, but three bridges over the Barrai, Barnoa and Atrai rivers were reported unsafe for trains.

From Atrai, mile 39, to Sandpur, the bank has sunk or been upheaved and the rails thrown out of line in many places. At Nilbharni, mile 132, the station-yard and the line on either side are reported to be absolutely wrecked.

NOT EVEN TROLLEY SERVICE

On the remaining portion up to Siliguri, the worst damage was done between mile 154, near Chilla and mile 165 near Manda Ghat. Full particulars have not been received, but it is understood that permanent way, earthwork, bridges and station buildings are all so seriously affected by the earthquake of the 12th and subsequent shocks up to the 14th, that not even a trolley service can be established until considerable time and labour has been spent in carrying out repairs.

On the Behar section the line near Katihar was disturbed by earth cracks crossing the bank, but the damage was not so serious as on the Northern sections. Communication between the Behar and Northern sections was interrupted for a time owing to damage to bridges between Dinagepur and Parbatipur, the principal bridge reported unsafe being that over the Atrai river. Communication was restored by the 14th by trolley service over the bridge, and subsequently by pushing carriages over.

ON THE DACCA SECTION

Trains could be passed between Narayanganj and Dacca after the earthquake. Two days later the line was open to Gafergaon, and is expected to be ready for trains to Balipara in a day or two. From Balipara to near Mymensing the bank has sunk and cracked, displacing and twisting the rails so that about six miles of line has to be lifted and relaid.

EAST OF PARBATIPUR

The line through Rangpur to Kounia is reported unsafe throughout for trains, and the same report has been received

regarding the narrow gauge lines leading to Jatrapur and Kuch Behar. The reports received from all stations on these lines speak of cracks along and across the line, from which sand and water welled up and spread over the rails. The cracks and sinking of the ground have caused a general displacement of the permanent way throughout, bending rails and breaking joints.

VANISHING VILLAGES IN PUBNA.

A correspondent from Nakaha, in the district of Pubna, in a letter to a European merchant in Calcutta, states that five or six villages near the Jammuna River "are altogether missing." He adds that up to the morning of the 14th there had been about twenty shocks. The correspondent says nothing of the inhabitants of the vanished villages, but it can scarcely be that they have been swallowed up too. News of such a fearful calamity would surely have reached us from some more authentic source.

SERAJGANJ

Your excellent collection of news about the earthquake contains nothing so far about Serajganj. We have suffered very much. The post office fell in, and they have not yet recovered all the property from the ruins. The jute mill chimney was snapped in halves, the water pipes burst, and such injury has been done that all work has been suspended. The Civil Court has been badly injured, the Jail wall thrown down, and the Local Board building has sunk several inches in the ground in front. The Subdivisional Office has been ruined, and Messrs Landale and Clark's pucca house has become a complete wreck. A street of pucca houses in the Ganj has been destroyed. The only pucca houses which have escaped scathless are a Hindoo temple and the Telegraph Office. The Elliot Bridge has bent up in the middle—a new iron arch girder bridge. The Municipal Hospital has fallen in. The road has gone down a foot or two in several places, and great fissures two to four feet wide have

opened out. Water came up from the ground and filled several old tanks. A canal three or four miles long frequented in the rains by jute boats, and 15 to 20 feet deep has been filled up and overflowed with sand. The most wonderful thing of all is that there has been no loss of life.

ANOTHER ACCOUNT.

On Saturday Serajgonj was visited by a severe earthquake, doing a lot of damage to the station. The weather, though hot and muggy, had given no indications of any disturbance of this kind, and towards the evening it was cooler than it had been for some days and a little rain had fallen at mid-day. At a little after 5 P.M. a muffled rumbling sound was heard sounding very like a strong wind from the north, followed immediately by one prolonged and severe shock of earthquake, lasting $3\frac{1}{2}$ minutes—slighter vibrations continuing for a long time afterwards. The ground heaved like a ship at sea and walking was impossible. As soon as the first shocks had diminished, the ground opened all round, and volumes of black mud poured over the earth, the effect being horrible in appearance. Shocks of more or less intensity have continued till this morning (16th.)

The damage done here is enormous. The Serajgonj Jute Company's mill is very badly damaged, about one quarter of the chimney having fallen on the building, and the walls have in many places sunk considerably. The whole concern will most probably have to be entirely rebuilt. The manager's and assistants' bungalows have all been badly damaged, and all the company's European employees are now living in tents. The house of the Subdivisional Officer is totally wrecked and is only held together by the iron bars in the building. The Telegraph Office, however, which is very close at hand, seems to have received little or no harm. The Post Office has collapsed entirely, and the Munsiff's courts have also been damaged. Messrs. Landole and Clark's manager's bungalow is in ruins, and Messrs. Muctavish's bungalow has been badly shaken. The roads have suffered a great deal here, large rents,

both deep and very broad in some places, appearing all over the station, and rendering driving about impossible, as in parts the roads have sunk leaving a drop of 6 to 10 inches

In the native quarter, almost every one of the pucca-houses have been damaged, the one occupied by the Bank of Bengal being the most injured. A big "kotee" of Babu Neem Chand, a native banker, collapsed, killing two persons in its fall. Reports from outside state that a lot of damage has been done in some villages through the ground sinking, but no loss of life. Tanks have sunk in some places and in others the bottom appears to have been forced up. Almost all the pucca wells have been broken and filled up with mud. The earthquake has been the most severe ever known even in the memory of the oldest inhabitant

MESSAGE TO MURSHIDABAD.

The Nawab Begum telegraphed yesterday to the Collector of Murshidabad as follows — "Deeply distressed at hearing great damage done by earthquake at Murshidabad. Sending Rs 200 for immediate relief of sufferers, and will be glad to contribute further on your communicating with me." Her Highness has subscribed Rs. 50 to the Building Fund of St Mary's Home. Damage has been done to the building of Her Highness at Murshidabad. The Imambara, with its furniture, is completely wrecked. The Rajah's kotee and garden house have fallen down. The Bari Deori has been badly cracked

THE COLABA INSTRUMENTS.

Curiously enough, although there were no earthquake manifestations in Bombay, certain phenomena were noticed at Colaba on Saturday evening which induced Mr Moos, the Director of the Government Observatory, to send an urgent telegram to the Meteorological Reporter to the Government of India at Simla informing him that "Eye observations of barometer declination and horizontal force at four o'clock were vitiated by sudden and violent oscillations." The same

earthwave which appears to have passed Agra at 4-30 (Agra local time) and to have affected Calcutta so seriously at 5-30 (Calcutta local time) must have been very probably the cause of the disturbance in the instruments at Colaba. Though not the slightest perceptible earth tremor or any other indication of the passage of the wave was detected at Colaba, beyond the disturbance in the instruments, the phenomenon was considered sufficiently serious, as subsequent events have shown to justify an urgent warning message to Sumla.

JALAPAHAR.

Mr. Carter, the Rector of St Paul's School, Darjiling, writes to say that not the slightest trace of damage has been done to the three newest blocks of buildings at this school, namely, Bishop Johnson Hall, Bishop Cotton Hall, and Bishop Milman Hall. Nor was any serious damage done to the old school beyond the displacement of plaster and the fall of a weak, useless gable wall. The Rector's house had a large quantity of plaster knocked down, but does not seem to be otherwise injured. The boys were moved into the new buildings immediately after the first shock. But little discomfort was experienced.

A STEAMER SHAKEN.

The Serang of the steamer *Hesperus*, of the India General Steam Navigation Co.'s services reports that about 4-20 on the 12th between Buxar and Ballia his vessel was shaken violently, so much so that he, the sukani, and several passengers were thrown down. The vessel took a severe list to port water running over the covering board. He describes the river on the spot as being like a large whirlpool.

SONADA.

The following particulars confirming my wire of yesterday may perhaps interest you. The weather had been close all day, and in the afternoon looked like a thunderstorm

About ten minutes to five, however, we felt a slight disturbance. This increased to such an extent that it was difficult to walk, as the earth was rocking so severely. All the jungle trees were swayd to and fro with a regular rhythmical motion, and my host's house, a pucca built one, rocked nine inches out of the perpendicular. Fortunately beyond plaster falling and a few cracks the house received no serious damage. We hear, however, that near Ghoom the road has cracked and a small building has collapsed. The severe shock lasted, I think, more than a minute, though unfortunately I did not time it. My host, one of the oldest residents in the districts, says it was the most severe shock he has ever experienced. The disturbances, happily on a much diminished scale, continued all night, and even while I have been writing there has been a slight shock.

(*The Englishman, Monday, July 19, 1897*)

EARTHQUAKE VAGARIES IN CALCUTTA.

It is evident that the area of serious damage in Calcutta is circumscribed. Certain localities have suffered extremely, while others have almost escaped. Undoubtedly, the shock was felt throughout the city and suburbs, but whether owing to the force of the earthwave or the condition of the buildings, or the relation to the wave, certain quarters have borne the brunt of the disaster. One of these centres is the Strand, where the Strand, Russell Street, Middleton Street and the Strand, while another is traversed by the Strand. The escape of wretched old houses

Curiously enough and the flimsy fabrics of Harrison's manifestations in Bombay subject of wonder, but one is conspicuous on Saturday evening with surprises, such as the wreck of the Director of the Government the almost complete immunity of the telegram to the Meteorological Department. The work of surveying of India at Simla, informing him with the utmost despatch barometer declination and horizontal of the damage done must have been vitiated by sudden and violent. Mr. Bright has been able

to assure the city as to the state of the sewer system, but even here the further reports will be awaited with some anxiety.

There are several houses in Elysium Row which have felt the effects of the shock very severely. The one occupied by Mr. F. E. Godfrey has its portico and frontage very badly fissured, and nearly in every room there are cracks and gaping walls to be seen. Another house in the same street which has been shaken badly is that occupied by Mr. Lemon and Mr. Campbell. All the damage seems to have been done to the north side of the building, and the cracks have widened considerably since the rains.

The commodious residence of Sir Francis Maclean, the Chief Justice of Bengal, 14, London-Street, has been wrecked to the south and the repairs are now in the hands of Messrs. Macintosh, Burn and Co.

The residence of the Consul-General de France has been considerably damaged. Happily he was away at Darjiling at the time. The walls of the dining-room have heavily caved in, and every room to the east is uninhabitable. The drawing-room is so badly cracked all over that it is feared it will have to be rebuilt. The bedrooms are in a dangerous condition and looking very much. The south verandah shows signs of the severity of the shock, and the roof of the rooms to the east is parting and looks as if it might come down at any time. The offices below stairs are all crocked.

Dr. Wallace's residence in Park-street has been damaged in several places. The southern portion of the top floor which at one time showed signs of collapsing has been dismantled. There are cracks in nearly every room, and the house has been temporarily deserted.

COUNCIL HOUSE STREET.

In Council House Street the large buildings are almost all seriously damaged. The premises No. 8-1, a three-storeyed building, which is otherwise known as the Old Exchange, has suffered considerably. The building, which is owned by Mr. Ezra, has, however, been examined and pro-

nonced not to be in any immediate danger. The first shower of rain following the shock simply deluged the place. The ground floor, which is in the occupation of Messrs William Watson and Co, is in a fairly businesslike condition, though evidences are not wanting of the violence of the shock. The Chartered Bank of India, Australia and China which is situated on the same line, has also received a good shaking judging from the cracks which appear here and there on the top floor.

The ground floor, where the banking business is carried on, is practically unaffected. The building occupied by the Comptoir National D'Escompte de Paris is practically unaffected. The Delhi and London Bank has suffered severely. An expert has, however, pronounced the building not to be in any great danger.

The Foreign Office of the Government of India, situated in the same street, likewise has sustained serious damages. A huge fissure runs up the front of the building, and the large south verandah is cracked, on the west side, at its junction with the house. Workmen are already busy with the repairs.

We are informed that no formal negotiations have yet been opened between the National Bank of India and the Committee of the Dalhousie Institute with a view to the Bank's temporary occupation of the Institute building.

The Dutch Asiatische Bank, in Hare Street, is badly damaged. The front part of the building is slightly injured, but the back or southern wing is seriously damaged from the top to the ground floor. The rear rooms of the top flat, which were occupied by the Manager of the Bank, have totally collapsed, and are being rebuilt. The drawing room is also far gone, and the second flat is just as bad. The whole building will have to be overhauled.

Messrs Harold and Company, in Old Court House Street had just had their piano show rooms on the top floor re-decorated, and were moving into them on the day of the disasters. These rooms are totally wrecked, but the loss would have

been much greater had the pianos been moved in. The south side of the building has had to be dismantled. One room of the top floor of Messrs. Mantn and Company's establishment has been condemned, and will have to be taken down.

The office of the Examiner of Telegraph Accounts has been rather badly damaged. The top and second flats exhibit some wide cracks, and a good portion to the south has come down. Three of the sunshades on the east part of the building have fallen and damaged the out-offices. Owing to the damaged state of the two upper flats, work had to be carried on on the ground floor till the repairs were attended to.

No damage was done to any of the buildings belonging to the Methodist Mission. The church, with its large roof unsupported by any pillar, does not show a crack or mark, neither is there a crack of any kind on any part of the church. The "Old Chapel," with a tile roof, and on the whole rather a cheap structure, was not in any way damaged. The Calcutta Girls' School was not injured in the least. There is not a mark of any kind on the parsonage, nor on either of the large school buildings on Jann Bazar Street. The entire property of the mission is uninjured. At the service on Sunday, June 13, there was a special thanksgiving service for the preservation of life in the city and the property of the mission. One of the wonderful things connected with the earthquake is the few lives that were lost—not one European in the whole city.

The European Female Orphan Asylum in Lower Circular Road has suffered a good deal from the shock. Cracks appear in many places, and storms of rain found out the leaks in the roof. A room of one of the teachers is unsafe, and will have to be dismantled. The institution had only just been repaired at considerable expense.

The new Grand Hotel stood the shock admirably. Every room is intact, and the house is full of people from the damaged houses. Every hotel in Calcutta has shared in the influx of guests.

Messrs Boscolo, of the Hotel Continental, write to us :— Referring to your observations regarding the damages done to houses, etc., by the earthquake and your remark thereon —“work for the surveyor,” we beg to inform you that in our premises, No 11, Chewringhi, which we subjected to a close examination, there is not a single crack in any of the walls, and we are glad to say that the building is intact, nor is there the slightest trace of a crack in the plastering. In our premises No 9 Chewringhi, which, together with the above, comprise the Hotel Continental, the new building erected by Messrs Mackintosh, Burn and Co., of this city, is in perfect condition, there being also not the slightest trace of a crack in the plastering or brickwork of the structure.

The Cotton Mills, of Messrs Mackinnon, Mackenzie and Company at Garden Reach, were not touched, but the house occupied by the manager has been half-ruined, and he has had to leave.

The house in the occupation of the Engineer of Messrs Parry and Company's Works at Garden Reach has been terribly shaken and damaged, half of it standing in a dangerous condition. It has been condemned, and will have to be dismantled. The verandahs are simply in ruins.

JUBILEE SALUTE COUNTERMANDED.

The Hon the Chief Justice, in consequence of requests made to him, telegraphed both to the Viceroy and to the Lieutenant Governor as to the advisability of firing the salute next Monday, and he has received a telegram from the Lieutenant-Governor saying that the Jubilee salute and his own salute as Lieutenant Governor had been countermanded.

PROVISION OF SHELTER TO THE SUFFERERS

Two applicants presented themselves yesterday before the Collector of Customs to obtain shelter at No 1 Shed in the Customs House. Several other persons whose houses are seriously damaged called at the Custom House and inspected the building in question with a view of obtaining accommoda-

tion there. The building No. 1 Shed would accommodate no fewer than 20 families who would be able to make themselves very comfortable.

THE SHOCK IN SAIDPUR.

A very severe shock of earthquake, lasting fully five minutes, threw this usually peaceful little station into a state of terror and disorder on Saturday last at 4-30 p. m. At first loud rumbling was heard like the passing of a heavy train, but one and all soon realized that something unusual had occurred, and from all sides the inmates left their houses and fled to open ground. The whole earth was vibrating and undulating in a most alarming manner, and it was impossible to keep an one's feet at times. Houses and buildings were rocking from side to side, and appeared to rise up and down occasionally as well. The five minutes seemed to be an endless time of suspense and horror to all who experienced it.

The rumbling underground continued throughout the whole time, and for some time after the upheavals of the earth had ceased. When all was still, one began to find out the effects of the shock, people coming from all directions to tell of their walls having fallen in, roofs having sunk, chimneys gone, and in some places of whole houses having collapsed. The houses of many families were rendered unsafe to remain in for the night, while others had fallen in bodily on the furniture and belongings of the occupants, several others being completely wrecked.

It is fortunate that in all cases the inmates had time to vacate the houses before they fell, though in some instances there were some very narrow escapes. In nearly all the families the children were absent from their homes, watching the Mohurram procession. Had the shock occurred at night it would have been a most disastrous affair to many, and loss of life must have occurred.

The Church and Institute have both received damage, and opposite the station the road was cracked badly, and is

A EUROPEAN LADY DROWNED

It was here that we first heard the sad news from Shillong. Every one who knew him will join in lamenting the terrible death of Mr McCabe, Inspector General of Police. We also heard of the death of Mrs Bell, a European lady of the station, who was drowned in the lake. So far as I know these were the only Europeans who were killed, but news is very scarce, as the road is breached in many places and till we passed only three natives had been able to get down. Fears are entertained that if the road from Sylhet is also closed there will be a great scarcity of provisions in Shillong before communication can be established. I believe the town of Shillong is as great a wreck as Gauhati, and that all the Government buildings and private houses have been destroyed.

The newly constructed bridges, all of the Assam Bengal Railway, have, I believe, all fallen, and the immense amount of labour which has been spent on them in the last two years is lost.

At each station at which we called Europeans and Natives crowded on board to hear and give the news, for telegraphic communication was cut off everywhere and no one knew what had happened at other stations.

MANY ASSAMESE DROWNED

Below Gauhati on the north, the Brahmaputra burst its banks and large numbers of Assamese have been drowned.

Passing down the river we saw the banks had been cracked in every direction, and that great masses had already fallen into the river. High landships, too, are to be seen everywhere on the hills. At Goalpara we found the same state of things, the sub divisional bazaar as completely fallen, and a large part of the bazaar has been actually swallowed up.

Disorder is nearly in as bad a condition. The church, many of the Langulows and a part of the bazaar have fallen. The roads are split up with cracks as to be almost impassable. There is one large crack which opens into the river, and I heard fears expressed that it may lead the Brahmaputra into the town.

Till we reached Dhabri we had heard nothing from below, and were uncertain whether it was possible to reach Calcutta or indeed, if Calcutta still existed. But there we found that though the Jattrapnr-Kannia line was closed, we could get through by Goalundo

At Rowmar I learnt from enquiries that Tara, the headquarters of the Garo Hills district, was completely wrecked, and like Shillong was cut off by breaks in the road.

It is impossible to estimate as yet fully the results of the catastrophe, but it must put a serious check on what all hoped would, under our new Chief Commissioner, be an era of unexampled progress

ESCAPE OF BEHAR

From comparison with the accounts of the earthquake which you are publishing the shock in Behar was but slightly felt. In a few places at Mozafferpur the masonry in some of the larger buildings has been cracked and damaged, and a few ramshackle dwellings in the native quarter came down. But there is nothing approaching the general devastation reported from south of the Ganges. Neither were there any of the portents that appeared in Monghyr and Jamalpur.

ARRAH

The shock of Saturday's earthquake was felt here very strongly. The time was a little after 5.30 p.m. (Railway time). I was sitting in a chair working and all of a sudden felt as if I had been seized by an acute fit of vertigo. My chair and the ground appeared to be heaving and swaying violently. I shouted to a punkawalla outside to ask whether he felt anything. He appeared to be thunderstruck. I then noticed that the open doors of an almshouse were swinging backwards and forwards as though I was at sea. I then lost no time in running out of the house into the garden, where I could scarcely keep my feet. Bird cages in the verandah were swinging violently. The waves appeared to be from north to south. The duration was about three minutes.

Cracks were afterwards observed in the walls of my house. The sensation felt at the time and long afterwards was that of violent sea sickness. I have heard that a rumbling was heard here but did not hear it myself. My daughters, out driving, felt nothing. I observed that dogs appeared to be much alarmed and distressed during the continuance of the earthquake. Plasters fell from the walls and ceilings in considerable quantity.

RAMPUR BOALIA

At 5 P M., on Saturday, Rampur Boalia was practically destroyed by the worst shock of earthquake ever experienced by any resident. The shock lasted for four minutes or more. Only two of all the two storeyed houses in the bazar remain those of Bhaboa Babu and Taran Babu. The bazars were blocked by the masses of masonry and timber which had fallen into them. The only two houses of Europeans which have escaped destruction are Dr. French Mullen's and the Bangal Silk Co's house, at Motihar factory, occupied by Mr Weston. The other two silk factories near Boalia, Kajla, and Siroil are much damaged. Kajla is almost destroyed. The managers of these two factories, Messrs Walton and Douglas, respectively, are, with their wives, with Mr Weston at Motihar. The other homeless residents have arranged temporary shelter.

Seven natives were killed on the spot and one has since died in hospital. Of the factories in the neighbourhood, only Katlamari, Maricha, and Lakhnabati are returned as being in good order. Some Surdahs among them have suffered very severely. The Barakoti is in ruins. Telegraphic communication was interrupted by the shock and from Saturday until Tuesday evening we received no letters or newspapers.

Both Malda and Berhampur have suffered severely, and several lives were lost at each place. From Nattore and Pathia come tales of disaster, and two bridges on the E B S Railway are gone. It will take years for the town to recover. In the account of the earthquake in Calcutta we read of the

houses that are fallen. Here we talk of the houses that remain. Two churs on the river have disappeared.

JALPAIGURI

A very severe earthquake took place here at about 5 P M, on Sunday. The earth swayed violently for, I suppose, about five minutes. I believe all the pucca bungalows in the district are more or less seriously injured.—J R

OGMMOTION ON THE PUDDA

Sara E B S R, June 17.—In support of the report of the Commander of the R S N Co's S S Bengal, I have to state that the river here (the Pudda) was in a great state of commotion during the whole time the shocks lasted, and in fact for a few minutes after. The whole surface was agitated and appeared in a boiling condition, while in the shallower part waves of mud and sand were shot up some two and three feet. The Railway flats and steamers moored here were also rocked violently to and fro. The most peculiar part was that after the commotion had subsided it was noticed that several small sand churs had entirely disappeared. I presume they had been shaken flat and washed away by the shock. The earth waves were felt here with terrific force and appeared to run from east to west. The Benal bridge on the N B S Railway, but 15 miles from here, was completely bent out of shape. Packages and mails being sent up as far as Parhatipur have to be transhipped. I enclose my card.

MOHIMA (NIGBITING)

On Saturday we experienced up here one of the most awful shocks of earthquake that has occurred in the memory of the oldest Assamese. I am sending you a succinct account of it.

PANITOLA

A very severe and appalling earthquake occurred here at 4 21 P M to day (Saturday), no doubt it must have been ex-

perienced throughout Upper Assam if not in the whole^o province, and in a greater part of North East Bengal. The motion seemed from south west to north east. The disturbance lasted nine minutes, and though I ran out of the bungalow I could scarcely keep my feet on *terra firma*, for the way I rocked and reeled.

During the phenomenon I noticed a horse fall heavily on to broad side, and several cattle suffered in a like manner. The huge tea house here (the only masonry structure) was expected to be seen in dilapidation, but it stood the quaking like a brick—I should say like *one brick*. The water in the ponds was worked up into wavelets and levelled every reed that could be seen above its surface.

Everybody about stood amazed while from every direction came choruses of the Hindu prayer "Ram Ram, Sita Ram, Sita Ram Ram Ram." I am happy that the information up to time is that there has been no damage.

DINAJPUR

The effects of the earthquake throughout the Purneah, Katihar, and Dinajpur districts have been most disastrous. The shocks were most violent, causing sickness in some cases they lasted for fully three minutes. Glass was thrown down from dining room whatnots, and the walls of my house are all cracked. At Purneah houses have entirely collapsed as also at Dinajpur, where every pucca house and building is more or less damaged, and some entirely thrown down. Among the houses of the European community those of the District Superintendent of Police and the Judge are very severely damaged. In the latter, a portion of the upper floor has come down, and the lower walls are so cracked as to render the house uninhabitable. The Rajbari has come down and altogether the devastation is alarming and deplorable. I have heard of one death only—that of a woman. At Purneah, among others, Mr Shillingford's house has fallen. The railway on the southern section has been a victim, the line and bridges for miles—are very seriously damaged and

traffic has been interrupted. The only bridge that appears to be seriously damaged is the Atrni bridge, nt 125 miles. The railway has, however, managed to keep open communications throughout this section.

AN ADVENTUROUS RIDE.

Mr. G. Hennessy, of Mathapur, Maldah, had an unusual experience after the earthquake, and as the story of his ride down from the hills has been exaggerated, we are glad to be able to give an authentic account of the exploit. Mr. Hennessy was in the Darjiling mail with the Hon. Mr. O. O. Stevens and a number of other passengers when the earthquake occurred. On reaching Silguri, it was found that all traffic was stopped, and at 11 A.M., next morning, passengers were informed that they were to be taken back to Darjiling.

We prefer to give the account of Mr. Hennessy's adventure in his own words, as told to our correspondent. As the earthquake had been a severe one, said Mr. Hennessy, I determined to push on at all costs. It was reported, however, that the earth was cracked all over, that most of the bridges were broken, and that it would be impossible for carts to go. While I was making these enquiries, my syce came up and said that Sasan, a Waler polo pony of mine, on her way from Darjiling, had arrived. This decided me, and mounting her, armed with a small flask of brandy, fifty grains of quinine, and four seers or so of oats for the mare, I started to do the 140 miles or so to Manibari. The heat was something to remember, but I rode steadily on from 3 P. M., until 9 P. M., and from 5 A. M. until 11 A. M., when I arrived at a station on a branch line of the E. B. S. Railway.

When I found that, although the line had been damaged, trains were still running to Manihuri, and as I was just in time to catch the only train of the day, I got into it and arrived at my destination very little later than my fellow passengers arrived in Darjiling. I rubbed the mare down every

fifteen miles, and gave her a drink and a feed, and jogged on again. My own food consisted of five small plantains and a glass of brandy and water for dinner, and two plantains and a cup of milk for breakfast. The mare did about 85 miles in from 25 to 26 hours, and although bathed in perspiration the whole time, was not much distressed, and would, I am sure, have done the whole distance, if necessary, 140 miles, in 50 hours. I am glad to say that my house is not seriously damaged, although the station of Maldeh itself is wrecked. You ought to have seen some of the faces when I said goodbye before setting out to ride 140 miles on one horse over a country I had never seen, and which was reported to be impassable.

(The Englishman, Wednesday, June 21, 1897.)

EFFECTS ON CALCUTTA

DAMAGE ESTIMATED AT A CRORE OF RUPEES.

It is impossible to form any accurate idea of the loss involved in the damage to property in Calcutta, but one estimate puts it down at a crore of rupees. Almost every house in the town will have to be repaired, while not a few must be entirely rebuilt. One large owner of houses, it is said, will have to spend some three lakhs to set his property in order. The Government Telegraphs have suffered extensively throughout the area of the disaster, and the breakdown has been the more severely felt as the volume of business owing to the earthquake has been enormously increased. Communication with Assam has been partially repaired, and through messages are now being received over the lines, but it will take many days yet before the damage is entirely repaired. Reports still reach us from all sides of the damage in Calcutta, and it will only be possible eventually to form a superficial idea of the gravity and extent of the disaster.

St John's Girls' School in Upper Circular Road has suffered to a considerable extent. The whole of the south end

of the upper flat has collapsed, and will have to be rebuilt. Luckily the children were not in at the time. The building is fissured all over and cannot possibly be used for some time to come. The place is deserted.

The offices of the Government Railway Police are terribly shaken. The frontage of the large structure has been very badly fissured, and will have to be pulled down and rebuilt. The other portions of the house also bear signs of the severity of the shock.

The Panddoopeeker thana is badly damaged, the south portion of the upper flat occupied by Inspector Peterson, having fallen in. No one was injured.

Driving from Chowringhi into Municipal Office Street, the first house to the right, the office of the Municipal Engineer, shows signs of being severely damaged. The whole of the west wing has collapsed. The offices have been temporarily removed to the ground floor of the Town Hall. Proceeding a little farther, the Headquarters of the Presidency Volunteer Rifle Battalion is seen to be in a bad way. The walls in one place have parted. The Orderly Room and the Armoury are severely damaged. Sergeant Major Brooks, who resides at the Headquarters, was out when the disaster occurred.

Superintendent Robertson, of the Calcutta Police, yesterday vacated his premises, adjoining the Bow Bazar thana, which have been badly damaged.

The several Companies of the Gloucestershire Regiment, who occupied the Dalhousie barracks in Fort William, and had to vacate and go under canvas on account of the damages done to the building, have been shifted into other vacant quarters. The men were encamped on their parade ground, which got so inundated during the recent heavy rains that their removal was considered necessary.

The Jewish Synagogue has not suffered very much by the recent shock. The east side of it, towards the steeple, has had a few cracks here and there, but not much to speak of. The Armenian Church and the Parochial buildings adjoining,

however, have fared badly. The west side of the sacred edifice, just behind the gallery, has been very severely fissured, the walls in some places giving way. The choir who generally occupy the gallery on Sundays, were not allowed to do so at the services yesterday, as it was not considered safe. The other parts of the building were intact. The east and west wings of the Parochial House have been badly damaged, and it is feared will have to be rebuilt. The priests were in their several rooms when the shock occurred, and all ran out. The tombs around the church have been much shaken. The Armenian Church of St John's at Chinsurah has been very badly damaged. The steeple has come down, and the Parochial buildings are a mass of ruins. It is customary for one of the priests to visit Chinsurah every Sunday to take the services there, but yesterday no one went, as the Parochial House had collapsed.

THE NATIVE QUARTER.

It is difficult to say how far the native quarter of Calcutta has suffered. The *Statesman* says that the damages done in Barra Bazar is not very great. Being almost entirely a Marwari quarter, there is no chance of seeing in what condition the inside of the houses are, and it is a well known fact that a Marwari will risk living in a house till almost daylight is seen through. The house of Munoor Dass Johnr Moll in Burtollah is, however, so badly damaged all over that he has considered it wise to vacate the place with his family. Another large house in a lane alongside is in a bad condition, and the inmates have cleared out bag and baggage. A large portion to the south east of the four storeyed house of Barman Dass Jumna Dass has collapsed, and is being dismantled. Another house in Sew Thakur's Lane has partially collapsed, and a portion of one in Rhuap Bahu's Lane has come down. A portion of a two-storeyed house in Cross Street (Sutaputty) fell during the shock, and is being dismantled. The place known as the rain-gambling den has stood the shock very well.

That every house has been more or less shaken, and several badly cracked, goes without saying, but there has been no complete demolition, and certainly no loss of life. Chitpur Street is one of the main arteries of the native town, and not many houses have been damaged here. The Sobha Bazaar Rajbari, in Raja Nobe Kissen's Street, seems to have been badly shaken—so much so that portions of the building, which has long since been partitioned among different members of the family, will have to be dismantled. An upper floor between the residences of Maharaja Sir Norendro Krishna and Raja Benoy Krishna, Bahadurs, has come down bodily, breaking a portion of the balustrade. The interior of the different Rajbaris forming the immense building known as the Sobha Bazaar Rajbari has been badly damaged, and in most cases will need exclusive repairs. In Cornwallis Street portions of two houses belonging to Maharaja Durga Charan Law have come down, and will have to be rebuilt. The verandah of the adjoining house has come down altogether leaving the pillars standing in a very dangerous position. Portions of Nos. 3 and 13 have also tumbled down, and will need rebuilding. Sham Bazar Street seems to have suffered most in the native section, as every third or fourth house has toppled over.

ARRIVALS FROM DARJILING.

The Hon. Mr. C. C. Stevens and two other first-class passengers arrived from Darjiling on Saturday by the mail train at 4-15. Several others arrived yesterday by mail train at 2 P. M. No fixed time can yet be given for the arrival of the Darjiling mail train at Sealdah.

INFORMATION WANTED.

Mr. Oldham, Officiating Director, Geological Survey, who is in Simla, informs us that a report on the earthquake is being prepared in his Department, and invites the public to send him observations. He asks that special attention

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The south side of the hill here seems to have been less affected than any side of the khud, neither has the Club, which is built of wood, the Lieutenant Governor's house, or the Church suffered. The Roman Catholic Church, however, has, to a very great extent been injured, and some houses on tea gardens below have been seriously damaged. The station at Tindaria was reported to have gone down the khud, this is an exaggeration, but it is considerably damaged.

The remarkable feature of the earthquake is that our Darjiling line of rail has not suffered, and runs the even tenor of its way, bringing us what little consolation it can in the way of news from Siliguri only. And it has also been providential that the wire to Calcutta has given us some little inkling of the condition of those who were in Calcutta when this unprecedented earthquake took place, for it seems to be the worst ever chronicled in the history of our great capital.

ANOTHER ACCOUNT.

Darjiling, June 14

There is such a feeling of suppressed excitement still in Darjiling. Telegrams and rumours are flying fast, and we, not knowing the worst, are imagining all possible ills. Crowds of people have rushed down to the plains, and many have had to return, as they find they could get no farther than Siliguri for four or five days at least. So we find ourselves cut off from any means of escape, and from mails, newspapers, etc. Urgent telegrams are crowding into the Telegraph Office so thick and fast that an ordinary one will not be sent at all. Since the great earthquake on Saturday evening we have been having continual shocks and tremors up to the present (Monday evening), as if mother earth, once having asserted her authority, could not again quietly subside. Oh! Saturday evening was truly awful. The great shock lasted three minutes, but it was the longest three minutes imaginable. We were sitting in the drawing-room so quietly just after tea when the bang banging of the windows, accompanied by a violent

shaking and the trembling of everything, together with the swaying of the furniture and ornaments of the room, announced something unusual.

"Oh!" we exclaimed, "it is an earthquake, an earthquake." With a dazed feeling we made our way to the garden, encountering the others hastening down the stairs. The house meanwhile was rocking like a ship at sea and the ground heaving. There in the garden we stood clinging on to the fence, watching the chimneys toppling. A roar went up from the hazaar, which was crowded on account of the people gathering for the big Sunday market. Just below us the Mohamedans continued their mad dancing procession, it being their Mohurram. And weird enough it all seemed. It was a long time before we could ascertain how much damage was done. One exclaimed, "Oh! look, Woodland's chimneys have tumbled!" and another "Oh, Oh! look at Oraigmount." Again we got the news that Annandale House had fallen. That soon proved true, as the refugees came seeking shelter with us. "Collingridge," the Maharaja of Kach Behar's beautiful residence, was uninhabitable. We were deputed to send the telegrams for the whole household to friends in different parts of the plains. The Mall and the roads were thronged with people on ponies, in dandies, or walking and all with the same dazed faces, discussing the same exciting theme. From scraps of conversation we caught, there had been a regular panic on the Mall, ladies fainted, etc. Everywhere we could see fallen or toppling chimneys and cracked houses. The odour of medicines from the chemists' shops proclaimed a large number of broken bottles within. The Telegraph Office was crowded with people sending messages, and the Telegraph Clerk did not seem at all displeased at his unusual harvest.

Many of the houses in Darjuling are useless until rebuilt, and many of course are only just fearfully cracked. Caroline Villa is one of these. Every room in the house is cracked. The chimney fell through the roof into one of the lady's bedrooms. It is truly appalling, the devastation of

those little three minutes. Craigmount, the residence of Mr R Landlaw, is a wreck. Two children were alone in the house when the shaking began, one, the youngest, lying on the bed. With great presence of mind the other carried her down the stairs, being hit by a falling brick on the way. In a very few minutes that bed was filled with bricks and mortar, and a great heap was lying on the stairs. Sleep has been an impossible thing the last night or two. People are ever watching and ready for another great shock.

By way of enlivening the situation during the continued shocks, we regaled ourselves with stories of all the awful earthquakes, Lisbon, Charleston, etc, and when those failed we even had recourse to the last days of Pompeii. To complete the consternation, news is coming in of almost the destruction of Calcutta. No doubt reports are highly exaggerated, but at best they are appalling. And we who have our little all there are waiting for further news, breathless with suspense. All the surrounding ten plantations have suffered greatly. Bloomfield is a ruin, and Soom (Mr Ash's estate) is totally destroyed. Tulvaar and many others are badly injured. It is marvellous that all the people have escaped. The people of Soom are without shelter.

PARTICULARS FROM SHILLONG

ANOTHER LISBON

Yesterday (Sunday) I wired you the bare facts as soon as it was declared probable that foot messengers could reach Gauhati. Those sent on Sunday and Monday early only returned to day, stating that three miles of the road was gone, and that it was impossible to proceed. Now we hope that by some indirect route our messengers have been able to carry the news of the disaster to the outer world. All telegraphic communication here is cut off.

The earthquake is unequalled for severity in the knowledge or experience of anyone here. It occurred at 4.15 P.M.

oo Saturday, the 12th instant without warning or forecast of any kind. The first terrific shock began and continued for three or four minutes with unabated violence. The earth was like one vast piece of machinery in motion, so violent and regular was the action. In the space of two seconds every building was levelled with the ground. From a central point of view, the writer saw the beautiful church and all the houses on the same line razed to the ground, only a cloud of red dust remaining. The sensation experienced is indescribable. The scene was heart-rending—children screaming, invalids being dragged from their houses, people hurrying wildly to and fro, all intent on finding or learning the fate of those dear to them. Riders, who had gone out in the district, came scarrying back from the danger they had encountered to face still greater horrors in the station. Two ladies who were driving in the neighbourhood of the lake know not how they escaped in safety, the horses roaring and plunging, the roadways yawning in great fissures and falling away on either side. The lake rose up like a mountain, and then totally disappeared, leaving only a swamp of red mud.

While it would be impossible to exaggerate the awfulness of the calamity, yet the loss of life is comparatively small. The hour of the catastrophe was a fortunate one. Children were, for the most part, not at doors, as also were the ladies.

With feelings of intense pain I write the few details known of the sad deaths which have occurred. That of Mr. McCabe's will be received with feelings of widespread regret. He had, for some little time past, been suffering from neuralgia, and exhausted with the pain had retired to bed. There at 4-30 P M, on the eventful afternoon, Mrs. McCabe left him quietly sleeping, and when she hastily returned from the drive upon which she had just started, and communicated the fact of her husband's position, many friends went quickly to the rescue, only to find their worse fears realised. Death, it is believed, was instantaneous. The re-

malas were speedily extricated, but life was totally extinct. So tragically has passed away one highly esteemed public-ly and privately, and the sad event has cast a great gloom over all. The second death is that of Mr. Rossenrode, of Upper Shillong. His daughter, Mrs. Hudson, left him alive and well at 3.30 p.m. in his own house. We only now know that the house is levelled with the ground, and that all search for the body has, so far, been unsuccessful. The house is a large one, and it is not known in which room the unfortunate gentleman was at the time.

The loss of native life is not yet known. Over a hundred men were at work in the Government printing press when it collapsed, and few have escaped. The Gurkha Regiment, who are doing splendid work, at once directed their efforts to the rescue of the sufferers. A few were extricated alive, and some shockingly mutilated. The regiment, officers and men worked night and day until they felt it useless to expect life, and more important work was wanted of them.

To-day (the 14th) the work is resumed, but I have not yet heard the result. At present I write these details seated on the shattered remains of my verandah,—dirt and confusions on all sides. Torrents of rain are falling, and the continuation of shocks obliges one every few minutes to vacate even this wretched shelter.

As already stated in my wire, Government House has shared the fate of the meanest building, and is levelled with the dust. The Chief and Mrs. Cotton are sheltered in a tent in the ground, where also many tents have been erected for the residents at the Government House side of the station. Many others are accommodated in the native market and in the native cricket pavilion, which, strangely enough, has escaped unhurt. Tents are also pitched in the cricket ground while people are thankful for any hut, stable or coach-house which by good luck has been spared.

General, Mrs. and Miss Hammond have found shelter in this little rickshaw house. Mrs. and Miss Hammond were

both in bed suffering from fever, when the calamity happened. Both marvellously escaped almost unhurt.

Heavy rain is falling continuously. All are bearing their troubles and losses as cheerfully as possible. Food supplies continue fairly good, and famine prices are gladly paid. The bazar is totally levelled, and the large stores of Golam Hyder, Junnatoolah, and others are completely buried. We are so far chiefly indebted to the co-operative stores for tinned provisions.

All thanks are due to Messrs. Partridge and Wokefield, who have generously allowed all these stores and stocks to be freely taken or given for the benefit of the sufferers. Stables, with a few exceptions, are entirely destroyed, ponies, and horses are, therefore, all in the open—wet grass their chief food.

Up to 5.50 P. M., shocks continue at short intervals, but further disaster is not anticipated.

We hear that Jowni and Cherra are razed to the grounds with great loss of life.

Mr. A. Walker, Darjiling, writes to say that Caroline Villa should not be included among the houses that have been either demolished or rendered uninhabitable.

KATIHAR.

Considerable damage has been caused by earthquake. The railway line and bridges have been damaged, and mail and passengers are being transhipped and conveyed by trollies. The arrangements for their safety made by the railway officials are perfect. All houses have been *seriously damaged, and some have entirely collapsed.*

The shock in the Purneah district was tremendous, and I made out the direction S. E. to N. W. At first I thought it came from the W. The archid pot in my verandah went as above, swinging tremendously. Then at the latter end of the shock it seemed to be W. E. to S. W., but the first direction I was certain of. A verandah thatched roof near which I was standing vibrated vertically four minutes, and I thought it

would come down with the rest of the house, but we got off with some cracks in every room. The ground cracked in many places, chiefly along the banks of nullahs with unsound soil out of which water and sand came. The sand was of a bluish grey colour in all the places I have seen it. And I am told some natives drank it and pronounced it "good water;" they look on the earthquake as a bad omen and their reason for drinking the water was to appease the rage of the evil one "Kali." I hope we have seen the last of this kind of earthquake. I have never experienced anything like this one, though I well remember 1885 and 1888. The Purneah station is greatly damaged. Several families have had to quit; some houses are total wrecks, while others may or may not stand. I mention the water point as some one in your paper wondered if it was hot or cold. No loss of life in this part.

MANSHAI, E. B. S. RAILWAY.

We had an earthquake here on the 12th at 5 p. m., which lasted five minutes, and there have been several lesser ones since. The one of the 12th was very severe, and has done a great deal of damage. It started with a slight quiver which soon increased in intensity till the houses and trees began to rock and trees in the forests knock up against each other as if a violent storm was blowing. The oscillation was, so great that a foot of water in a reservoir $4\frac{1}{2}$ feet deep was thrown out. Many people lay down the "tajiabs" (it being Moharrum day) which were being carried, as they were knocked down and broken, and one of the men died of fright. Several bridges on the E. B. S. Railway between Parhattipur and Kahla have cracked and sunk and necessitated the stoppage of traffic, a passenger in consequence having to ride from Siliguri to Katihar, which distance he did in 12 hours. Some of the houses at Katihar are cracked and a portion of a three-storeyed house, belonging to the local Rani, which was built by Messrs. Burn and Co., some.

years back, I think, has come down. In the civil station there was great consternation among the European community, at most of the pucca two and three-storied houses have suffered badly. In one the roof has come down in one of the rooms, in another the southern wall has gone, and all, if not nearly all, are badly damaged, some being passed as dangerous. Most of the families are living in smaller houses, while these repairs are done, and if the native prediction that there will be a worse one on Saturday comes true, I do not know what will happen to the majority of houses. In the factories, the damage has not been so severe: the roof of one house is badly cracked, so badly as to necessitate its being taken down, and most of the pucca houses are cracked. One old gentleman I have just heard of had a very narrow escape. He had just left his desk when the wall of the office room came down. Great fissures have taken place on the banks of the streams, and in many places the earth for many yards has sunk into the water. Cattle were in a great fright, and walking straight was an utter impossibility. Purneah has never been visited with so severe a shock in the memory of the oldest inhabitant.

PURNEAH.

The proverbial "oldest inhabitant" in Purneah does not remember either personally or traditionally such an exhibition of seismic force as occurred over the District at about 5 P. M., on the afternoon of Saturday, the 12th instant, a day that will be long remembered now for the five minutes of extreme tension that all had to go through. The earthquake shocks began suddenly with rumbling subterranean noises accompanied by slight tremors which increased every moment in intensity until the crust of the earth seemed to jump beneath the feet, and a standing attitude was maintained with difficulty. People out of doors mostly sat down or lay flat on the ground, some holding on to bushes, others grasping the short grass in their hands or to steady themselves. It was this short space of time during which the oscillations were intensifying that allowed many people to rush

out of their crumbling houses and thus save their lives. The vibrations lasted from four to five minutes and the direction of the seismic wave seemed approximately from N E to S W, as indicated by the violent swinging motion of hanging lamps and chandeliers and the stoppage of pendulum clocks facing these directions. Several slight shocks were felt subsequently during the night and the next morning engendering an uneasy feeling at being indoors. At the maximum of seismic commotion the waters of the rivers were dashed high up the banks and the fishes leaped into the air at this unprecedented experience. Numerous cracks in the earth in all directions have occurred throughout the district, especially in the neighbourhood of rivers, and through some of these fissures, sand and water have been shaken up to the surface to a height considerably above the water level. The damage done has been serious and extensive though, so far as it is known at present, no lives have been lost. A well known resident of Purneah station writes — "The whole of Purneah has suffered, not a house has escaped. Fortunately no lives lost. Mrs Shillingford's, Mrs Downings, and Mrs Williams' houses are the worst and will have to be rebuilt from foundation to top. The ground has cracked in many places and the Roman Catholic Chapel (built in the seventies) is in ruins. Every house is more or less unsafe now and how we shall pull through the reins is a question we can not answer." Families have had to turn out into tents and thatched houses, no good houses being available at this inclement season of the year. Several of the old pucca firm houses in Purneah city have also tumbled down and the three storeyed mansion of the Saibganj has partially collapsed. The A B S R line has been damaged in places and telegraphic and rail communication between Katihar and Darjiling are interrupted.

CHAFED house.
About 5 1/2 m on the Messrs. Burnt a heavy shock of
earthquake was felt here rumbling noise

Serious damage is done to the buildings of the local zemindars. The four-storeyed palatial residence of Babu Chuckerulal Roy is in ruins. The house is nearly as big as the General Post Office in Calcutta. The Faróda Prasad Institution building and Babu Lalit Mohan Roy's large house suffered much. The shocks were from E. to W.

WAVES ON THE BRAHMAPUTRA.

Dibrugarh, June 13 —At about 5 30 p. m. on the 12th instant, a rather unpleasant earthquake shock was felt here, which was considered a very unusual occurrence for the time of year. It came on quite suddenly, and lasted in all about a minute and-a-half, beginning with an oscillating motion and increasing to a steady swing as if a succession of waves were passing underneath. Trees began to rock about in an alarming manner, and waves were formed on the river in front of the station and on the Brahmaputra. The motion appeared to come from west to east. No damage was done to buildings, due no doubt to the fact that the motion was regular and entirely free from shock. The natives attribute it to the Mohurram festival which was going on at the time, and look upon it probably as a recognition of their piety. Many people here, who have experienced earthquakes, say that they have never known one to last for so long a period.

SAFETY OF THE HUGHLI BRIDGE.

The monsoon has burst here almost simultaneously with the earthquake. This has reduced our positions to a most pitiable one. The Chinazurrah barracks which are now being occupied by the Hughli courts and are daily the busy haunts of hundreds of people have been rendered quite unsafe. The portion occupied by the Divisional Commissioner has been partly levelled with the ground. The District Judge is sitting almost in a shower-bath amid clumps of bamboos set up to prop the roof. The verandahs in the south and west of his room have all given way. The removal of the courts has cost us nearly a lakh of rupees and the Government engineer thinks that

pinnacles have had to be taken down Happily no one was hurt

GHOOM

The shock was severely felt at Ghoom The house of Rev Mr Lee is a mass of ruins In the boys' bedroom the wall has fallen in and the bed was smashed to the ground In the girls' bedroom, the bed was partly huried Had the disaster occurred at night there would have been no hope for four of the children The adjoining house occupied by Mrs West appears to have escaped But Mrs West says that the earth cracked open where she was standing outside the house.

JALPAIGURI

As I see you have no information yet regarding the earthquake at this place, you may perhaps be interested with what occurred here There was a very severe shock commencing at 5 8 P M, and lasting two minutes The direction appeared to be from west to east The new club, a masonry building, was cracked in several places The other houses in the station being mostly built of wood with mat walls were not injured though during the shock they oscillated violently In the district however, the tea garden hungalows of Raniberra Jattrapore, Naga ori, Hyapatha, Bullabari, Bantharri, Tunbari, Ramandanga, Tendu, and Bentguri, suffered more or less severely, some having come down badly Several fissures have opened in the ground both at Jalpaiguri and in the district, and in one place the banks of a river closed and for some time the water ran over on either side Many wells silted up, and in some places water was forced up the fissures in the earth No serious damage was done to any of the public buildings, the oscillation was very severe and it was extremely difficult to keep one's feet while it lasted, several shocks have occurred since, some times three and four in a day This morning at about 9 18 there was a very distinct and fairly severe one which only lasted five seconds or so The weather looks threatening and the atmosphere is close and oppressive

MYMENSINGH

At 5-10 P M, on the 12th instant a tremendous earthquake was felt here. A railway guard at the station had the presence of mind to time the shock, which lasted one minute and a half. There is a difference of opinion as to the direction taken by the wave. Out of about 150 pucca houses in the town and its neighbourhood, only two stood the shock, i.e., the Town Hall and the District Magistrate's house. Only a portion of the Magistrate's and Collector's cutcheries is standing. The Judge's Court and offices are in ruins. A low rumbling sound was the first warning received of the coming disaster, and those who had experienced the shock of 1835 or heard of it were not slow in quitting their houses. The mother of one of the pleaders was killed, it is supposed more by fright than injury from the falling house. A few others were buried, but quickly unearthed by the police and coolies. Mr. Palit the Barrister, had a very narrow escape with his wife and child. They were in their house when it came down. It appears that when the portion they were in began to come down, they ran to the other side, and when that tottered they rushed back to the ruins of the first spot. Both Mr and Mrs Palit were slightly injured by falling plasters and bricks. It will be amusing to know that the District Judge is living in his stables, Mr and Mrs Palit in a Railway carriage, the District Superintendent of Police and his assistants in the Police lines, and most of the other European officials and non officials in tents, kitchens, and stables. The railway line has been damaged very badly for about 23 miles and a train is not expected to run from Mymensingh for another fortnight. Mofussil reports show serious damage in all parts of the district, and the quantity of stinking sand and matter which has oozed from the fissures has in many places damaged the young crop. Some of these cracks are 25 feet in breadth. The subsidence of land near rivers and khals has damaged and rendered useless many huts and houses which stood the violence of the shock. The most complete wrecks are the Raja's Palace, and the two

churches Two or three shocks are felt here daily, the last being at 6-30 this morning

NAKALIA

I have just read an account of the reported disappearance of several villages along the river Jamuna, and I am glad to say that this is pure imagination. Certainly we had a very severe shock on the 12th instant at 5 30 P M, which lasted from five to six minutes. The houses in this quarter, consisting chiefly of mat walls and thatched roofs, there was not much danger. The impulse, however, to run out was dominant, and nearly everyone I think, followed this impulse. Mohunganj, an old Indigo factory, with a catcha roof, had suffered very badly. There are large gaps in the walls, and the place will require a good deal of repairing. The residents of the factory have sought shelter with friends till the repairs are finished. No loss of life to my knowledge has occurred owing to this catastrophe, within a radius of fifteen miles. The water in the river and tank at the time was very boisterous. A very distinct rumbling sound was heard to the north east after the earthquake for fully ten minutes. Everyone at the time of the noise was greatly alarmed, as the impression was that it was on us again, but gradually the noise grew fainter and we were satisfied that the earthquake was leaving us. No noise, however, was heard before the earthquake came, if there was any sound it was not noticed by anyone.

FESTIVITIES AT MURSHIDABAD POSTPONED.

His Highness the Nawab Bahadur of Murshidebad had arranged to celebrate the Diamond Jubilee, by prayer at the city Masjid for the long life, happiness and prosperity of Her Majesty the Empress, a dinner to the European ladies and gentlemen of the district, illumination of and fireworks at the palace, feeding the poor and the inauguration of a ^{distinct} dispensary. But the earthquake has so severely damaged ^{its} the palace and the other State buildings, that it has closed

disorganised the programme. The palace is not safe enough for the reception of visitors, and His Highness will consequently have to postpone the dinner party, the illuminations and fireworks to a future date.

CASUALTY AT DINAJPUR.

The effects of the earthquake are being seriously felt here. The Judge's house is in ruins, that of the District Superintendent of Police has totally collapsed, the Magistrate's house is much damaged and also the Rajbari. Every house is more or less damaged, in one house seven women were injured, and one has since died. Railway communication was only stopped for a short time and is now reopened.

(The Englishman, Thursday, June 24, 1897.)

AN OFFICIAL SURVEYOR WANTED.

Calcutta is still in the hands of the surveyors and builders. Many an old landmark has vanished, while houses in all directions are, in the words of the song, "closed for alterations and repairs." Among others, the work on to the Lall Bazar Police Office has been begun, while an army of workmen is busily engaged all over the city, pulling down or building up. The former process is in many cases most dangerous. A part of the corner house of Garstin's Place that is being dismantled looks as if it would certainly collapse, carrying the workmen with it. In other places, there can be little doubt that the repairs are being hurried, not to say scamped. Our attention has been drawn to more than one house where deep fissures have been filled in loosely with broken bricks and surki. In a few days it will be impossible to tell where the cracks are, especially if the walls get a rub of whitewash. It is hardly necessary to emphasise the iniquity of these operations, but unfortunately there seems to be no official supervision.

While engaged on the repairs at No. 41, Wellesley Street, and of the houses damaged by the earthquake, three masons

sustained injuries—two very badly. One of the latter has since died.

The building occupied as a thana in Waterloo Street having been declared to be unsafe, through the damage sustained by the shock, was vacated on Tuesday. Inspector Creagan and his staff of policemen removed to No. 9 Government Place, North, where the thana is at present located.

The Ice Factory in Narcolunga has escaped damage, but the quarters of Mr. A. T. Power, engineer in charge, situated in the factory grounds, suffered so much that he has been forced to remove. The Roman Catholic Chapel and the Cemetery situated in Northern Circular Road have escaped injury of any kind. Not so much as the plaster on the chapel walls has been broken.

THE SHOCK IN CACHAR

REPORTED LOSS OF LIFE

At 5.15 P.M., on Saturday last, the 12th instant, Cachar was visited by a severe earthquake, which lasted about four minutes. It began with a slight shaking, which increased in intensity until the vibration was so great as to cause feelings of nausea.

Mr. Trotman's bungalow and Mr. Morley's have nearly collapsed, the former beyond repair. The Bazar Ghât has chasms of some feet in width, and hot springs of sulphurous water are bubbling up. Any number of native houses are razed to the ground. The house that suffered most was the bungalow occupied by the ladies of the Welsh Mission in Silchar. A large brick column about two feet in diameter in the west end of their verandah came down with a crash, smashing everything in its fall. The whole of the walls are cracked and split from floor to ceiling. Luckily the ladies had time to escape.

The Surma Valley Light Horse Headquarters also suffered. Being situated on a small hill outside cantonments, it felt the whole shock, and every wall is split from top to

bottom The Sergeant Major's wife had a very narrow escape. She was sitting at a table sewing when the trembling began and had just time to reach the verandah when a large almirah, fell forward from the wall and smashed the table at which she had been sitting. The remarkable fact about the whole shock is that large articles such as heavy book cases, almirahs, music stands, etc., fell forward with a crash, while lighter ornaments, such as vases, lamps, etc., simply slipped along a few inches.

In the native tanks, which are now pretty full, the water rushed from side to side until it rose in a wave ten feet high. Wash stand basins full of water were shaken until the basin was completely empty, water being thrown from six feet away. On the river waves were seen that took one's memory back to the Bay of Biscay. The bed of the river upheaved and made a sight that scared the native mind. Two boats were sunk here, and the river remained rough for at least half an hour afterwards.

A report has just reached me that a large house has fallen in a hush near here and that nine natives are killed, but this is not yet confirmed. The shocks were repeated in a milder form at 10.15 P.M. and 1.15 A.M., on Sunday morning.

I hear a great rush was made to send off telegrams, but had to relate the posts and wires had also suffered, and the would be senders went home lamenting.

Of course, there are little things that make one smile when it is all over. A number of Manipuri mistresses were at work on a large bungalow in the station, and when the shock began they were bewildered. They hung to the rafters like monkeys, but in a minute or so there was a stampede. When they found themselves on the ground they stood looking up in the sky for the cause of the trouble. The sepoy of the 17th B.I. were very sensible in their ideas. They bolted out of their houses and spread themselves out on all fours, looking like so many monsoon frogs waiting for the rain.

The direction of the roll appeared to be from south-east to north-west. Most of the large articles fell either towards north or south, if with their backs against a north wall they fell south, or *vice versa*.

Nine miles out of the station the roads were split up in all directions. The river seemed to stay its progress for a second or so, and then it flowed on.

ANOTHER ACCOUNT

Sunday, June 13—I find that the wires are still blocked. So I forward some particulars by post regarding the damage done. The shock came about 5-20 P M, and though it might seem longer through the excitement of the moment, the severe shock which did the damage did not last over fifty seconds. There were tremblings and slight waves for some time after, and at 1-20 A M on Sunday morning we had a slight shock, but the damage was done by the severe one of Saturday evening.

The principal damage done in the station of Silchar is the front of the lady missionary's house having fallen out and the hangelow of Captain Waller, steamer agent, the walls of which are cracked all over, the arches broken, and much personal property destroyed. Not a hangelow in the station of Silchar has escaped, and in the tea district the damage to buildings and machinery is serious. At Hathecherra the hand holding the water supply for the turbine working the tea machinery of the garden burst, the turbine, we hear, is destroyed together with the machinery. Luckily no lives were lost. Many tea gardens near Silchar have sustained severe loss, and no doubt when telegraphic communication is restored we shall hear of much more.

The steamer companies have had their property at some stations entirely destroyed, Fenchugany, the cold weather headquarters of the company, being exceedingly unfortunate. The offices have entirely disappeared, the land on which they are built having subsided, and one of the large iron godowns has sunk several feet into the earth.

SERIOUS REPORT FROM SYLHET.

The district of Sylhet has suffered very severely. Sylhet Town is partially destroyed, and there is serious loss of life. At Fenchuganj, the house of Captain Walker was swallowed up, and many native houses have gone into the river. It is the same at Karimganj. At Manamukh the saw mills have been swept away.

Hatticherra Tea Estate has been badly damaged. The large dam and turbine moved bodily away, releasing a store of water twenty feet high, which took everything before it. Doloo has suffered in a less degree.

At Nemotha, the sanitarium for Cachar, a hill over 4,000 feet above the sea level, the house of Mr. Carnac, District Superintendent of Police, has been shaken to the ground. Every bungalow is shaken. The church wall is cracked, and there is an opening in the ground in the bazar.

THE SHOCK IN KUCH BEHAR.

NARROW ESCAPE OF THE MAHARAJA.

A correspondent of the *Darjiling Standard*, writing from Kuch Behar on 13th June, says:—We had such an experience here yesterday as I believe no one has ever had in India before, and I hope none will ever have again. The Mohurram was at its height and all the tazzias were in the palace ground, the weather was fine, and happily all the people were outside when in three minutes there was but one pukka house left standing in Kuch Behar, and the roads and fields were all great gaps with water spouting out. I am not very easily moved, but I confess I was this time, I had just left the palace and was driving home when suddenly everything shook and a big two-storeyed house 50 feet in front of me collapsed. The road was cut into great gaps, and it looked as if we should do Korah Dathan and Co. When it stopped, I turned round and drove back to the palace and found it a ruin. The Maharaja and many others escaped as by a miracle; but two men were killed (we may hear of more). I then drove home and

found my house a ruin. So far I believe only seven men are killed, entirely owing to everyone being out to see the Mohur rum. With every house in ruins, it is impossible to say if this is all but I think it may be, all houses save one which is too dangerous to work on, have been examined and it is not good sacrificing more men for an idea, for if there are more in that house they are dead. We hear that two of the mofussil catcheries and pucca schools and many bridges are gone. Railway and postal communications are stopped. Practically all that has been done in this State in the way of buildings and pucca bridges for the last 35 years, has been swept away in three minutes. I have seen two fairly bad earthquakes in Dacca and the effects of a bad one in Bogra and Sherpur, but I never saw anything like this. The fissures in the earth from most of which water came out, made the bulk of the people believe that the last day had come. I do not think much damage will be done to crops. Just close to the fissures, where the bubbling water carried much sand, there will be a little damage and the earthquake has raised the water level everywhere but this, I hope, will go down in a day or two, and if it does there will be no great harm done. The motion was a very short, quick undulation giving a pucca house no chance. Last night I slept in the Church, which is a thatched bungalow and escaped in consequence. Much of our property is gone, but the Maharaja's losses are enormous. He had practically built houses for all his chief officers and catcheries at all sub divisions, but one and all are gone. The palace is beyond repair, but I hope most of the furniture may yet be saved. Still the loss is enormous, and its suddenness makes it all the more crushing.

The Maharaja will go to Daryling with the boys as soon as he can travel. He has nowhere to live here (nor have any of us, for that matter) and is in a single room with his three sons, tutors and aides de camp in another. The Darbar is of course an impossibility, nowhere to hold it, and every pice is required to make good the damages.

FIFTEEN DEATHS AT RUNGPUR

The house of the Collector of Rongpur is gone, as well as the pucca houses and coteheries in the station. We had a bad time here altogether—fifteen people killed. All our Jubilee preparations come to nothing. The entire European community of the station are now housed in the grass dāk bungalow, one room to each family.

(The Englishman, Friday, June 25, 1897)

THE MADRASAH COLLEGE AND ITS
NEIGHBOURHOOD

This part of the city abounds with traces of the violence of the earthquake. From a distance the broken steeple of the Free Church arrests the eye. Mr H. Stark, who is at present in charge of the Madrasah, and who lives just opposite the church, from his upper verandah watched the steeple reeling to and fro. The shaft of masonry, clear-cut against the blue sky, rocked violently, then a crackling sound, and some fifteen feet of masonry danced over the tower. It was a weird sight. Then came renewed shocks, and the steeple top came to the ground with a crash. The street was crowded with people who had rushed from their houses. Wellesley Square was thronged. As soon as the quaking subsided, Mr Stark hastened to the Madrasah to find out how the building had fared. The ground floor had escaped practically unhurt, but the upper storey, which is used as a boarding house for mofussil students, has been much shaken. Every arch is broken, serious gaps have been made, and the Grecian porch on the south has had to be deprived of its pediment, as this ornament had been thrown out of position. The Executive Engineer has forbidden the upper floor to be occupied till the repairs are completed. It was fortunate that the students were at their own homes in consequence of the midsummer vacation. An application has been made for permission to lodge the boarders, when the College reopens, in the Elliott Hostel. This building, as well as Dr Harale's and Mr. Stark's houses, have not been injured. In Wellesley Street the following houses have suffered considerably —

Nos 12, 51, 47, 46, 75, and 77 No 75, the registered office of the Eurasian and Anglo-Indian Association, is a complete wreck, and St Saviour's Church (S P. G.) at the corner of the Square has sustained several nasty cracks

THE EXPERIENCE OF SOUTH SYLHET

South Sylhet, June 14—The Diamond Jubilee year in South Sylhet is likely to leave anything but pleasant-remembrances behind it, except, perhaps, one of thankfulness that, so far, there has been no great loss of life in what might have been an appalling tragedy. At 5-20 P.M., local time, on Saturday, without any warning, there was the most violent earthquake that has ever been in the memory of the oldest inhabitants. The writer of this has had conversation with the oldest inhabitants, and they aver that the one of 1869 was child's play to it. The season all through has been an unusual one, but there were no indications pointing to an upheaval. The sky was overcast, and shortly before it had been raining heavily. Almost immediately after the shock was over, it began to drizzle again, and the temperature was moderate at the time, 82° in the shade. In nearly all our former earthquakes, their approach was signalled by a loud, rumbling noise, but in this instance there was no such sign, and the first indication was a most serious upheaval, which scarcely permitted one to remain on their legs, in fact, walking or running was out of the question, unless one held one's arms out like a balancing pole on a trapeze, and the violence of the shock was so great that huge trees were bent almost to the ground and seemed as if suddenly struck by a very severe squall. The duration of the shock was close on three minutes, and the wave seemed to travel from a northerly to a southerly direction, perhaps north westerly to south easterly or nearly that. The amount of damage done is, of course, greatly exaggerated by native report, but still it is enormous. Opposite Mertinga Factory, the Dolei river backed up

and overflowed its banks with a regular roar, and great gaps or fissures opened out all over the country. At Minshi Bazar the biweekly hât was going on, and the consternation may be more easily imagined than described. The unfortunate natives tried to fly, but were met by huge fissures opening in front of them, from which dust very much like fine charcoal was emitted in clouds. The train (Assam-Bengal) was derailed near Karimganj, and one ballast train near Telagaon had only the engine and a few trucks left on the line, the rest subsiding into the paddy fields below, the embankments having parted and left a fissure underneath. Disasters, all more or less serious, are reported on all sides, but the only case in which there is any authentic information is the case of Ali Omjid Khon's, the largest zemindar in South Sylhet. It being the Mohurram time there was a large gathering at the place for religious exercises, amounting, it is said, to 200 people. The building being a pucca one, it was, of course, inevitable, if anything happened to it, that there should be disaster, and rumour has it, founded on very good authority, that some ten people are seriously injured, and three fatally. The building is a complete wreck. The first rumour was that Ali Omjid Sahib was buried in the ruins, but this turns out to be false as he is safe; and, as he is a great favourite, there was a feeling of relief when the news became known. The interruption to the Assam-Bengal is serious, and the district in the meantime is cut off from the outer world, and there have been no mails for three days. Further particulars will follow when authentic information comes in.

South Sylhet, June 17.—During yesterday, as no shocks of earthquake were felt, we were beginning to get our confidence restored when last night we had four shocks again, two between 12 and one in the morning, very sharp and quick. Sad tales of ruin drop in, and the station of Sylhet itself seems to have suffered more even than the worst parts of the districts. Details are mostly native rumour, as no dâks have been delivered since the 12th. It is

a scandal to the district. Where can the up mails of the 13th be all this time? When the earthquake took place the mails had got this far, and the letters of the next day due from Calcutta must have been between Goalundo and Chand and ought at once to have been sent on by despatch steamer to Monomukh, Fenchanganj and Silchar, but no one seems to know anything about whose business it is to make any arrangements, and up to date the only dak run is the empty farce of carrying the mail bags from the Shamsheroagar Post Office to the railway station, and back again. There ought to be some fat in the fire somewhere, and it is hoped that the Chief Commissioner, who is on the warpath to improve his Province, will make a start with the postal authorities. All last week's home letters are lying at the various stations on the Assam Bengal Railway, and doubtless many friends at home will be anxious when they receive no letters unless those out here have foresight enough to wire via Bombay, and it is even doubtful if those wires would catch the mail, as it was only yesterday that telegraphic communication was restored via Sylhet, although by paying for a press message at ordinary rates, I did manage to get a wire through to the *Englishman* by the railway wires. Up to now, the line is not clear, only urgent messages being accepted, and it will take a day or two to work up arrears, but just imagine you in Calcutta being cut off from the outer world for six days, and the postal authorities making no show. Only one thing prevents crime in the shape of manslaughter being perpetrated, and that is the difficulty of getting at the heads of the department. If manslaughter were committed, the Deputy Commissioner says he would let the perpetrator down easy. From one end of the district to the other, it is extraordinary how severely some places suffered, and others quite close got off lightly. Taking the South Sylhet district as the farthest south in the subdivision, it would appear as if the Demiston Division had been on the crest of a wave, or nearly so, and Halghat, still nearer the centre, if not the actual, for travelling further, north, the damage was fast decreasing, and at Bhamoora and Jagcherra it was prac-

tically nil, but after leaving Jagcherra it again began to increase in force, Mydelia and Moringa being in the centre, while Shamschernagar, a little further north, practically escaped. Knnayhatti and Lungla, going on in the same northerly direction, began to feel it considerably, the centre of the wave occurring at Clevedon or thereabouts. Proceeding further north, we come to Sylhet station itself, which must have been in another centre, as the bungalows and cutcherries are all more or less injured or wrecked, and the jail a ruin. It is feared that there is a big death roll. Since writing the above, there was another smart shock at 3 P M. Since then heavy rain has fallen, and the air seems cleared a bit, and it is to be devoutly hoped that this is the last shake for some time. The sky has during the last week had the most extraordinary appearance I ever remember—grand, awe inspiring, and picturesque, the varied tints of blue being a distinctive feature, from the palest azure, in the foreground, to what one might call an electric or metallic blue in the background.

AZIMGANJ.

A severe shock was felt here this (Saturday) evening at about 5 P M. The wave passed from east to west. It lasted for about three minutes, causing several buildings and temples to fall. A greater part of the town is in ruins. There have been several shocking deaths here. Nine dead bodies of men, women and children have already been extricated from the debris. Half an hour after the first shock another slight shock was felt. A low rumbling noise is occasionally heard from under the ground. The people are panic stricken, and many have been rendered homeless. The fine Jain temple of the late Rai Dhunpat Singh, Bahadur, worth about a lakh of rupees is down. The damage to property on the other side of the river is also great. It was drizzling when the first shock was felt. The roof of the local railway station office has given way, damaging the telegraphic apparatus.

SLRAMPUR

All the houses here were damaged. The College house was very much injured. Mr Craven's house was so badly

injured that he was obliged to remove on the same night. The old Daoish church has been greatly damaged. Two men of the Serampore Mills were hurt, and one man from Bhadrassar so severely that he died after his arrival in the hospital.

NINE DEATHS AT BOGRA.

The destructive earthquake which passed over Beogal on the 12th of June was felt at Bogra at about 5 10 P M, and lasted for about three minutes. It came on with a low rumbling noise, and began with a mild shock at first. The buildings and trees began to sway and a shout of panic arose—Hindus shouting "Haribol! Haribol!" and Mussalmans "Alla! Alla!" Almost all the public buildings in the station have been either corroded or severely cracked and damaged. The District Magistrate's residence is a mass of ruins, and the Magistrate and his family narrowly escaped. Nawab Abdol Sobhan Chowdhury's residence has also been totally wrecked. The District Magistrate's cantenary is reduced to ruins, having for the most part been corroded. The Circuit House has been similarly damaged. The Public Library has been demolished. Almost all the pucca houses in the bazar and the town have either been completely smashed or severely damaged. After the earthquake a noise resembling the sound of distant cannonade was heard to come from the east, without, however, being accompanied or followed by any shock. The rumbling noise at the beginning seemed to come from the north, but the ground swayed from east to west. Not only pucca houses but houses with mud walls were severely damaged. The District Magistrate, the District Superintendent of Police, and the extra-judge—who was holding Sessions at Bogra at the time—have quite closely compelled to take shelter in tents. The district was cut as the further communication for three days, no daks being as if the Dacca Division communication was difficult, we were, or nearly so, and Kalib was signalled for over 24 hours—not the actual, for travelling fitted up to the present moment in fast decreasing, and at Bharatpur. At Jaipur had a brother and

a nephew, aged 70 and five, respectively, of the Deputy Collector in charge of the Government Estates were crushed to death by the roof falling upon them. The persons who have died are mostly children, aged from three to five years. The distress of the people who have been deprived of their houses cannot be overstated. Large fissures have appeared on the surface of the earth in many places on the banks of the Korotoya, and sand and water have issued out of them in large quantities. Reports have come from a place called Jamirbaria to the effect that the ground has sunk in many places, while the beds of the Korotoya have been raised up in others. At Enlharia, fragments of stone of dark colour have been thrown up through crevices and holes in the ground, specimens of which have been sent up to the District Magistrate. The earthquake was felt with less violence at Sherpur, no loss of life being reported. In many places the smell of sulphur was detected coming out of the fissures. The Magistrate of the district has been busy with the accommodation of the Collectorate Catchery, and temporary sheds are being erected with all possible haste. The local Government school was examined by the Magistrate the other day, and granted a week's holiday as the building was badly cracked. The Civil Medical Officer's house partly collapsed, and Dr. V.L. Watts is residing in his kitchen. The only public buildings which have escaped without appreciable damage are the Post Office, the District Board's Office, the Municipal Office, and the Zenana Hospital, the last having been erected only a few months ago. Mr. Taylor, a Government pensioner, is living in a gari, his house being smashed.

RAMGOPALPUR.

The shock of the 12th was felt here most severely. It lasted five minutes, and every brick-built house was levelled. All the grand costly furniture of Rai Jogandra Keshoro Rai Bahadur's palace has been completely destroyed. A bearer of the palace has been killed by the falling in of a roof. The neighbouring villages of the palace were cracked, and sand

and water issued from the ground. The standing crops of those villages are covered with sand. Gouripur, Kalipur, Colechpur and Bhowanipur are in the same condition.

CHITTAGONG

I have not seen any notice of the earthquake at Chittagong on 12th instant among the many sad descriptions you have collected from other parts of India. I was at the Agonea Tea Estate at the time, and at the moment of the occurrence was occupied in paying the hands. At 5 27 P. M., local time, there was a slight tremor, which gradually increased in intensity, and I thought it prudent to clear out of the tea house when the Fire Insurance buckets in the loft overhead shook out their contents on my pay roll. For three and a half minutes the ground cowered heavily from the north-east to south-west. The men (mostly Mussalmans) began to pray and the children to cry. The women remained perfectly stolid.

There was no rumbling sound, such as I remember to have been the invariable accompaniment of the many earthquakes I have experienced in Chili. The shocks were heavier than I have known during 22 years' residence in Chittagong and longer than in any I have known elsewhere. The tanks were violently agitated. I noticed some cows grazing in a field below, but they were not in any way disturbed. The crows, on the other hand, were in a greatly agitated state. The earthquake brought down the rain from the leaden skies, which had been hanging over us for hours.

No material damage was done. The cement floors were cracked, a coolie line was injured, and the wall of a pucca building split. The earthquake was equally severe all over the district, and it is fortunate there was no tidal wave in the rivers or the low lands would have been submerged. There was a slight shock again at midnight, and another at 1 P. M. on the 13th.

DAMAGE AT FENCHUGANJ.

The Steamer Co.'s property at Fenchuganj has been destroyed. The office was undermined and sunk in the river.

The iron godowns have running through them large fissures a foot wide, and on each side are heaps of sand and black, oval-smelling mud thrown from the fissures during the shock. The main road from the ghnt to the Sylhet road is destroyed, and much damage done to surrounding tea gardens. No dak has reached Silchar from Calcutta for a week. The steamers formerly running the muds by Government contract have again been employed by the Postal authorities.

DISTRESS IN SHILLONG

FUNERAL OF MR McCABE

Shillong, June 17

I am anxious to send some news to day, but to write in any way connectedly is impossible. Discomforts are very great, and the heavy downfall of rain has increased these greatly. This morning we are thankful to have fair weather with a slight wind, which will enable us to get our clothes dried. All night long it rained heavily,—such rains as have not been known in Shillong for years past,—and in addition, there was much thunder and lightning. Shocks were less frequent in the early part of the night, but at 1 P.M. one occurred which would have been considered serious by those who had not suffered the terrible earthquake of the 12th instant. Another equally bad took place at 4 A.M. and lesser shocks continued almost every five minutes until 6.30 A.M.

Little news has reached us from the outer world, and we long to hear that all are safe as we are. Food supplies continue fairly good, but fears are entertained. We hoped for supplies from Gauhati, but now all hopes are shattered, for we hear Gauhati also is levelled with the dust, fortunately, however, without loss of European life. Some native children only, we hear, have suffered.

The body of Mr Rosenrode, of Upper Shillong, was found on Tuesday last, buried in the ruins of his own house, and was buried the same evening in the cemetery. Much

sympathy is felt for his daughter, Mrs Hudson, who is alone and suffering anxiety about her husband who had gone out into the district and has not yet been heard of. The once beautiful cemetery is in a sad state. The funeral of Mr McCabe was a sad and never to be forgotten sight. It took place on the evening of Sunday, the 13th instant. In torrents of rain the mournful procession of all who were able to attend bore the remains of their dear lost friend to his last resting place. The broken down wall of the cemetery had to be crossed by the mourners with their aid and burden as best they could. The service was said by the Chaplain Mr Davies, and never was service more solemnly impressive.

June 18 —The fair weather has been of short duration. Rain again is falling heavily and rumbling shocks continue half hourly and more or less frequently. *Bashis* are quickly being erected, the sound of hammering is heard on all sides, and the ladies and children, still in the native market and cricket pavilion will be glad to escape to *Bashas*.

The exposure has been most trying but all so far have borne up bravely. All the tents available have been erected and thankfully accepted. All attempts possible are being made to search for and recover missing property in the ruins of the various houses, but again heavy rain is a hindrance, and labour is scarce. Famine prices continue. Cooke labour is Rs 2 per diem gram Rs 20 a maund rice Rs 8. Bread is unattainable. Little flour is to be had, and tins of biscuits are nearly exhausted.

Telegraphic communication is still cut, but a body of men have gone under Mr Henderson's supervision to attempt to repair the wires. The disk which should have arrived on the 13th has just reached us, and that does not bear on the present distressing state of matters.

5-50 P M —Comparatively slight shocks have continued all day, with much wind and rain. News from Calcutta is anxiously looked for, but so far none has been received.

WHY SILCHAR WAS NOT MORE DAMAGED

Silchar, June 21

After a lapse of eight days our first batch of papers came to hand yesterday, and as may be imagined were eagerly scanned for news of the recent terrible earthquake. On reading the telegrams from various stations we were somewhat surprised to see that the account sent from Silchar gave the duration of the shock as lasting thirty seconds only. This is incorrect, the actual duration being about four minutes, though some of the residents say five and six, while for some time after that a slight oscillation continued. So far as we know at present only two lives were lost, but many had narrow escapes, notably one lady seated at her dressing table, who moved away just in time, as a moment later a heavy almirah fell with a crash on to the table. The Mission House, in which two ladies reside, was partly destroyed, the pillars supporting the front verandah collapsed, causing that part of the house to fall. Every bungalow is more or less damaged and cracked, some of the walls showing big gaps, and of course the breakage to furniture, glass, etc., was very great. But in comparison to other places not many miles distant we now consider that we were exceptionally fortunate here in not sustaining more loss, and attribute this chiefly to the fact of our houses not being pucca, but built of bamboo, with wooden rafters and plaster walls. They gave to the shock and swayed about like boats on the water.

Our own experience of the occurrence was that in attempting to rush across the room to the nearest exit it seemed like reeling up a hill. The house appeared to be lifted bodily and came down slantwise and as though the floor came up to meet one! My husband and I made an attempt to leave the house, but before we could reach an outer door were compelled to hold on to a projecting post for fully a minute to save ourselves from being thrown violently to the ground. It was with difficulty we could keep our feet. At last we managed to get outside, where all was in great commotion, servants were screaming, some lying down and others clinging to

each other and hanging on to the nearest substantial objects. The horses were stamping about in a terrified state in the stable, dogs were howling, and in fact every beast and bird seemed so highly disapprove of the interrupted state of affairs, judging by the noise they made. On turning to the river (our bungalow being situated on the bank) the sight was one that will long remain in our memory. The water was in waves such as are only seen in a heavy storm at sea, with this difference that quantities of earth were thrown up from fifteen to twenty feet high, the appearance afterwards being that of a river of mud. The one topic of conversation the whole week has been of the earthquake, and we have all been waiting in great anxiety for news of our friends in other parts, more especially of the unfortunate visitors to Shillong. But we could only wait, and wait in suspense, as we have been cut off from all communication. Not only was there no postal delivery for eight days, but there seems to be an indefinite ending to the receipt of telegrams. The telegraph office has been besieged day and night with anxious persons writing messages, and although our telegrams have been accepted for despatch since the 14th, we can get no replies to date.

Several slight shocks of earthquake have been felt the week through, one on Saturday night last being unpleasantly noticeable, and we are all in a state of nervous excitement, fearing there are more to follow, yet hoping that we have seen the last of so terrible a calamity as that of the 12th instant.

SOME DETAILS FROM SHILLONG

The Commissioner, Mr Cotton, and Mrs Cotton were just stepping into their carriage when the first shock was felt. The ponies bolted luckily and only just got clear of the falling building. I have heard of one case in which a sick woman was thrown out of the window with the couch she was sleeping on. Her life was thus saved. Mr McNaughten a newly joined subaltern, who was very ill in bed, was carried out through the window of his house by Miss Beadon, whose

magnificent plack in a most trying crisis has been the general subject of conversation. The water-works have been destroyed and so also the beautiful "Ward" lake. At the time of the first shock a Mr Elder, son of Captain Elder, our oldest resident, was rowing in the lake. The surging waters drove this boat on to the dam, and with the aid of his bearer's turban young Mr Elder, a boy of nineteen, was dragged to the shore, and only just got away from the bridge when the dam burst. The roar which followed as the water rushed down the hills was heard two miles off. The lovely grounds surrounding the lake, which were Sir William Ward's special pride, are a hopeless ruin, and it will take many a year before they can be restored to their former beauty.

Mr G K Watts, the Executive Engineer of this district, and Dr Carroll, Civil Surgeon, arrived on the 15th from Gauhati, having walked the distance 68 miles, in 30 hours from time of starting. Very little damage, comparatively speaking, has been done to the main road from Gauhati to Nongpoh, which is the halfway resting place to Shillong and Mr. Watts, whose energy is beyond praise, is confident of having that portion of the road ready for cart traffic in three days. From Nongpoh to Borgani, which is eight miles from Shillong, the roads and bridges have been badly knocked about, but this portion also Mr Watts counts on having open for traffic in ten days. The damage on the last eight miles is very serious, and probably this portion will not be righted for a couple of months. Letters are now carried from Shillong to Gauhati in 2½ hours, the usual time being eight hours.

Last night at 12 o'clock we heard a fanfare of trumpets, which the nervous among us thought was an intimation to the public that a large fire had occurred. An hour later we had our first post delivered from Calcutta since the 12th.

The devotion shown by Lieutenant Trotter, Commandant of the Silchar Military Police, who was on temporary duty in Shillong at the time of the calamity, has been brought to my notice. His wife is in Silchar, but in spite

of the terrible suspense he has been in owing to the absence of news from that station, he has devoted himself night and day to those who are least able to help themselves. Messrs Bell and Hodgkins also deserve great praise for the public spirit shown by them throughout this trying occasion. I find I have omitted to mention an item of news brought by Mr. Watts, who said that as a consequence of the earthquake several small geysers and sulphur springs had started in the plains.

RAJMAHAL

The earthquake at Rajmahal on the afternoon of the 12th instant was of a severe nature, and lasted for four minutes, creating quite a panic among the residents, almost every building has been seriously damaged. Houses in the bazar have fallen and others so badly shaken that they are uninhabitable. Some of the old ruins of great historical and archaeological interest have collapsed. At Sahibganj the damage has been very severe. The Railway Institute tower and the upper storey of the Railway Office have fallen, and some of the other Railway buildings have sustained injury, while the Maharajpur and Tinpahar railway station buildings are considered unsafe and likely to fall in with the vibration of passing trains. A second shock was felt next morning at half past twelve, a third at 10 P.M., while a fourth occurred this morning, the 15th June, at 2 A.M. A remarkable feature of the earthquake was the sudden cracking of the earth in several places, from which a quantity of mud and water was thrown up to a height of three or four feet. Fortunately there has been no loss of life.

DAMDIM, DUARS

As you have had no account to date from the Damdim District Duars, concerning the earthquake I send you some notes. The following bungalows are either entirely ruined or will have to be pulled down and rebuilt—Hahapatha, Glencoe, Bullabarric, and Pattarphora. The following are rather badly

injured —Ranichera bungalow chimneys fallen and upper storey badly cracked, lower storey not badly injured. Soongatchi small bungalow, lower storey not badly injured, upper storey badly cracked. Other bungalow at Soongatchi not badly injured. Toonbarri bungalow badly cracked up above, lower storey a few slight cracks. Several factories have been slightly injured by and walls falling out and cracks. Baradighi bungalow slightly cracked in upper storey, not much injured, but is about the only bungalow which has not lost its chimney.

The avalanche of rocks referred to in your telegram as having fallen near Gnatong was very distinctly heard in this district, but it seemed to be further away to the east than Gnatong. The thunder was very loud and also the separate reports afterwards, like big guns, the sounds were supposed to proceed from inside the earth, instead of 12 000 feet above us, until your telegram explained the cause.

The post and telegraph arrangements entirely collapsed here. For four days no information could be got as to whether Calcutta was still in existence or not, indeed, it seemed very probable that Calcutta had entirely disappeared, as people imagined that even if forty miles of wire had fallen, in a civilized country one wire could be fixed up again in a day's time. Outsiders must think the Duars planters a very long suffering class of people, but anyone behind the scenes would know that it was as good as a sea trip to many managers, not hearing from their agents for four days.

In the neighbourhood of Nawra tea estate there were several bad cracks in the earth, some of great depth.

THE SHOCK ON THE BRAHMAPUTRA

I am asked by nearly every person I meet—Did you feel the earthquake on the river at Gauhati? My reply to the query is—I did, and never will I forget the sensation of the first shock. I was a passenger on board the steamer Indra at the time. We were anchored at the time, and I was on the fore deck, and was talking to the Captain and his

wife, when I suddenly heard a strange rumbling sound, coming, as I thought, from the engine room. Then it grew louder and louder. The captain then said "It is an earthquake." No sooner had he said the words than I was thrown off my feet, as the steamer seemed to be thrown up. I was obliged to cling to a pillar for support, as it was an impossibility to stand without assistance. In the meantime the walls of the large white pucca ghant were crumbling to the ground like a pack of cards. But the last I saw of it, it was still standing. The hospital and all the buildings I could see fell to the ground with a crash. I saw the top of the temple on Peacock Island fall to the river, then I was unable to see anything more of the island as it was completely hidden in a cloud of dust. There were two flats in tow of us at the time, and the hawsers of both flats were stretching and causing the flats to sway about in a most terrible manner, so that every second I expected the sides of the steamer to go, and its bottom to drop out. But we fortunately escaped with very slight damage to the steamer. As soon as the shock was over the captain ordered steam, which was immediately given, to our great comfort, as we were simply going wherever the storm wave drove us. Although we had three anchors down at the time the storm wave was tossing us about. After a great deal of trouble and anxiety the captain managed to turn the steamer. While we were under way we felt two shocks, which were continued throughout the night, two of which were nearly as severe as the first. The steamer and flats were then taken below Karmicha Hill and anchored there, as the water was not so disturbed. But the continuous falling of earth caused one of the flats to ground. The next day on returning to the ghant at Gauhati it was about two hours before the steamer could anchor, as the river was still so terribly rough. A number of people came from Goalpara for shelter as their bungalow was nearly a ruin, but to their dismay they found that every building, including the church and bazar, had not a brick standing. All the Europeans had to go and sleep the night on the Commis-

sioner's yacht At Ganhati the ground opened and the river entered the place, and some of the natives were standing up to their necks in water, at Goalpara the same thing happened The principal bungalows and the bazar are in ruins, and although some of the bungalows are still standing they are not inhabitable

How far it is true I cannot say, but I am told about 12 miles from Goalpara fire was seen to come from a mountain, and there was a dreadful smell of sulphur, but I leave this to geologists to find out.

(The Englishman, Monday, June 28, 1897)

THE SEISMIC CENTRE

AT THE FOOT OF THE GARRO HILLS

The catastrophe that swept over the whole of North-East Bengal on the 12th instant evidently had its centre so or very near the Garro Hills The direction of the seismic wave was from north-east and north-west towards the south of these points, and Mymensingh and its vicinity within a radius of about sixty miles from the hills suffered severely We first see the action of the wave at the foot of the hills at Soosnog—Durgapur, the residence of the Maharaja of Soosnog The whole of this town is not only in ruins, but the Rajabari with the bazaar, and the police thana, nearly a mile apart from each other, have sunk several feet into the ground There have been several casualties, and among others the Maharaja has to deplore the loss of an uncle and a cousin Coming south east and south west, we find that Mymensingh Ramgopalpur, Gaoripur, Kalipur, and Muktagacha have all suffered greatly, to the south west, Jamalpur, Sherpur, Jaggernathganj, and Serajganj, are all badly damaged Following the former direction, I can speak from observation All the roads, water courses, pucca and thatched bungalows are entirely destroyed The bridges, without exception, are broken Woodwork and masonry are smashed, and the iron portions are twisted The roads are sunk in several places, and have great cracks across them The water-

houses, and the railway station. The rumbling or groaning of the earth, as the wave was passing, was now inspiring. The Judge's Court, of which we were proud, and the Raja Bahadur's palace, which was the show place of Eastern Bengal with its magnificent furniture, pier glasses, electric lighting, etc., are merely heaps of brick and mortar, the foundations of which will have to be taken out, if the sites are to be built on, as the earth's fissures run across them. The bazar, with its many petty dwellings and shops, is a heap of ruins, throughout the station there are great rifts, and the small from the sand and stuff thrown up is sickening. Finally the church opposite the station has sunk six feet.

Our officials are inexhaustible in their endeavours to assist everyone, and in spite of their own losses and the hard times they are having Government property in the shape of records, etc., have been saved and carefully housed. What Government and the householders of the station mean to do regarding the houses ruined remains yet to be seen. Alas while all the officials except the Collector, whose house is just tottering, as also all the other Europeans in the station, are living in out houses and tents which with the thermometer at very near 90° in the shade, is no joke.

AN EARTHQUAKE JAIL RELEASE

Our Civil Surgeon is having as hard a time of it in addition to his usual duties. Barely had the shock passed than he cantered down to the Jail to find the prisoners gathered and sitting all of a heap, and the walls fallen out. As he is responsible for the prisoner, he is constantly down at the Jail to see to the rebuilding of the wall.

Muktagacha, a very large native town, is about eleven miles from this, and the home of the Raja Bahadur and several large zamindars. The Raja Bahadur had a fine palace there containing a valuable library, but the place is in ruins, and several of the houses have sunk several feet.

The railway between this and Dacca has in places been twisted like a corkscrew, and all communication was stopped for some days. Not considering that some of the railway

officials could come through by trolley, it seems rather surprising that the mails even now, several days after, are put down about fifteen miles from this, to be brought on " by runners. The Railway Company surely could have a trolley service for the mails.

ANOTHER ACCOUNT

We seem to have felt it almost worse than in any other part of Bengal. I write to give you some of the details of the damage it has caused. All pendulum clocks having stopped at 5.5 P.M., we gathered that the shock, or, at any rate, the greatest severity of it was felt at that time, it lasted fully two minutes, and viewing the surrounding buildings as I did from the Maidan in front of the house, I could see at least four of the houses occupied by the European residents. Of these, three were so badly damaged that it is dangerous to attempt living in them. Two of these were two storeyed, and literally crumbled to bits.

The Judge's house is one of the above-mentioned, and from the spot where I was standing you could see also the ruin of the little English church and a small pucca building used by the Brahmo Samaj. A large lower storeyed building near the Police Lines, which has recently been repaired and was occupied by the Engineer in charge of the new Railway extension, is also a ruin. All the European houses, except one, have become uninhabitable, including the magnificent palace of the Maharaja, which was furnished throughout in the most costly style.

The European residents are now in tents and kitchen huts originally intended as servants' quarters, but in every case they escaped unhurt. The Native town has suffered also, most of the pucca buildings, of which there are a great many, having become quite uninhabitable. The Charitable Hospital has escaped with a few cracks in the south west wing of the building.

Only one death occurred, and that was of the wife of one of our local pleaders, who was crushed by a falling wall.

IN THE RUINS OF SHILLONG

A FORLORN JUBILEE SERVICE.

THE QUEEN'S MESSAGE

Shillong, June 20 —In a very few words it has seemed possible to sum up the terrible disaster which Shillong in common with the greater part of India, has suffered. To detail individual loss and suffering is a more difficult task, and is, perhaps, best left alone. All such seems as trifling when compared with the great provincial calamity which has overtaken us, and again so deep and fervent is our gratitude for the preservation of life that all else is of secondary moment. Shocks continue with more or less frequency and more or less severity. The worst we have experienced since the never to be forgotten paroxysm of 12th instant happened yesterday afternoon at 5.15 —precisely the same hour.

We were all startled by the subterranean noise, as of muffled artillery. Again the ground oscillated backwards and forwards and up and down in a most alarming way, that had there been in these parts any stone structure left standing it would assuredly have gone, as all the others did on the 12th. One can perhaps best realize the tremendous display of energy on that eventful evening by picturing alone the two memorial columns, one to Major Williams in the Club grounds, and the other to Mr. Quenton and his unfortunate companions in the Secretariat compound which were literally torn to pieces—the stones flying all round, so that now only three rows of stones remain on their bases.

These monuments stood at least twenty feet high, and they had nothing to support, yet the stones came down, as an eye witness puts it, like a shower of hailstones. This, too, was the fate of the powder magazine, and that no explosion took place is matter for deep thankfulness.

Bright sunshine gladdened our hearts for a time yesterday, and enabled us to get our clothes dried and to make further search in the ruins for more clothes. Few of us, so far, have others than these we were when the disaster happened, and those have now many times and again been saturated. *Basas* are speedily being erected. All available tents are pitched and others, we hope, are already on the way from Cawnpore and Calcutta. The drains are all broken down, so that our supply of good potable water no longer exists. This latter is a serious loss, and great care is necessary lest other disasters ensue. We have few, if any, filters saved. All, however, continue fairly well—only want of sleep and anxiety have not been without their ill effects. The mothers of little children call forth much sympathy, but all are bearing up bravely, and have a cheery word for others as well. One or two invalids, too, have all need of pity, and such has been freely given by their fellow sufferers. Too much praise cannot be given to the Gurkha Regiment for the splendid work they have done so cheerfully and ungrudgingly night and day. As the regiment is short headed at present, four officers absent and only five present, and one of these, only lately joined, is invalided, the more credit is due to them. The work of excavation continues at the public buildings under the supervision of the Civilians. The search is now for valuable papers and such like.

Food supplies still hold out, and we hope will until stores arrive from elsewhere. Famine prices are extorted, but these are to an extent controlled by the authorities. We all gathered together to day (Sunday) for a very touching and impressive little service in the Cricket Pavilion, which has so mysteriously resisted the e many cosmical disturbances. Our Chaplain, who has been indefatigable throughout in his efforts to help and comfort the sufferers, conducted the service.

The special Jubilee prayers were said, and at the close of the service by the General's desire, we sang 'God Save the Queen'. The more touching, therefore, was the sympathetic message from the Queen which the General afterwards

read to us, and which was contained in the telegrams just received from England.

June 22 — A foot messenger has just arrived from Cherra telling us details of the complete ruins there. Not one house is left standing, from another over forty dead bodies have already been excavated, and the search continues. Help is much wanted.

No letters and papers have yet reached us from Calcutta, and anxiety for such is very great. We hear that damage done in Gauhati is complete, and that in the tea district miles of garden are under water. Similar accounts come from Tezpur of wrecked hungalows and tea houses.

Food supplies continue sufficient. Coolie labour has by order been reduced to twelve and eight annas for men and women, respectively.

NARAINGANJ AND ASTROLOGY

At Noringanj the shock was a terrible one, lasting fully three minutes, the motion being from north east to south-west. On the 15th about midnight, there was another sharp shock, which caused another precipitate flight into the open. This, however, was of short duration, scarcely lasting thirty seconds. Since then the earth has not been quiet; there is a continuous tremor throughout the days and nights, causing a peculiar sensation and a feeling of giddiness, and giving rise to the idea that the earth is being pulled backwards and forwards by some unseen power. The damages done to pucca buildings is extensive, Messrs David's property being the one that has suffered most. Almost all their godowns are badly cracked all over, the roofs of some of them falling in, while their house, the Bhurrah Koti, has become uninhabitable. Messrs Rall Brothers' property has suffered less, the damage to their godown being slight, and of a nature that can be repaired with little trouble and a very small outlay of money. In several other press houses the

chimneys have been so badly damaged as to necessitate the r being pulled down and rebuilt Of the dwelling houses, besides the Bhurah Koti, which is now almost in ruins, the Nawab's house at Havgau occupied by Mr Sarkies, suffered severely, the inmates having to make a rush out for dear life under a shower of falling bricks and mortar, happily, however, without any bodily injury Messrs Ralli Brothers' four pucca houses escaped with slight cracks to two of them, their office house and the house at Bander escaping without a single crack, though during the shock they awayed to and fro in a most alarming manner

As in Calcutta the earthquake here has not been without its grotesque effects Not a little amusement was caused by a well known resident, making his appearance in the street with only a towel round his waist being obliged to effect a precipitate retreat on seeing the four walls of his house split The total damage to property is estimated at 4½ lakhs of rupees Happily no lives are reported to have been lost

Not improbably the earthquake is the work of Venus, as Mr Liotard is represented by Mr Atkinson in your columns to have discovered by his calculations of the forward and retrograde motion of that planet Mr Liotard was a bit too late with his calculations for his own safety which it seems was jeopardized by the seismic disturbance occurring two days too soon As Mr Liotard has lately ceased to pose as an astronomer or an astrologer, it is cruel of Mr Atkinson to draw him away from his secret study of the heavens — LSPEROS

CHAIBASSA

I hope it is not too late to give my experience of the great seismic disturbance of the 12th instant I had just finished my bath when without any previous warning I noticed the boxes in the room dancing about, while a vibrating sound outside could be heard On going into the verandah I found the roof, which is a loose tiled one, vibrating distinctly, with an up and down movement, the vibrations being short and rapid It then dawned

on me that we were being visited by a severe earthquake. My bungalow was swaying visibly, and I expected every moment to see it come down. The shocks were first noticed at 4.40 P.M., and continued for about two minutes, the direction being as far as I could make out, from north to south. With the exception of the loss of a few tiles, plastering, and the cracking of some of the walls in a few houses, no further damage was done.

THE RISE OF THE RIVER AT GOALPARA

Mr. Balthasar, Sub-Divisional Officer at Goalpara, Assam, informs us that the statement that a tidal wave had destroyed the bazaar at Goalpara and that sixty lives had been lost, is incorrect. What actually happened was that the river suddenly rose about ten feet, swamping several boats and throwing others up on the bank. Two persons, as far as has been ascertained, were drowned. In the town one death occurred, — that of a child, who was crushed by the falling of a wall.

KATI HAR

June 23 — On the whole this portion of the Railway has suffered much less from the earthquake than might have been expected. I timed the shock by my watch at the time, and as near as I could make out, the shock lasted a little over three minutes. The water in the wash hand basins was thrown out over the floors, and the glassware was thrown off the table and decanters were smashed. At Dinajpur all the houses were more or less damaged. That of Mr. Livesey, District Superintendent of Police, is a heap of ruins. The upper storey of the District Judge's house came down, carrying away a portion of the lower floor and portico. The Maharaja's residence suffered severely, and the Circuit House, in which the Judge took refuge, was in a semi-ruined state. On either side of the Railway, as far as the eye can see, is a rent in the earth, and under the Atrai Bridge on the banks of the river the earth has sunk to a depth of some feet, shifting one of the piers of the bridge. But

after a careful examination by the Engineer in charge the bridge is pronounced safe for handshunted vehicles with their freight. Another somewhat severe shock was felt yesterday at about 6-25 in the evening, but I have not heard that it caused much damage.

A GIRL'S EXPERIENCES IN SHILLONG

THE NIGHT IN THE PAVILION

It was a quarter past five on Saturday afternoon, the 12th of June. After raining hard for two days and nights the weather had cleared, and the afternoon was lovely. Not a cloud in the sky. My sister and I started out on our bicycles for a ride intending to call at the Post Office on our way to post the English letters. Just as we were starting, my sister remarked what a dreadfully close hot afternoon it was, so unlike the usual weather at Shillong and not a breath of air, but we thought it lucky having no rain. We started off up the hill towards the Post Office along the road by the side of the lake. When we had gone about 300 yards up the hill, I suddenly heard a dreadful roar. I couldn't make out what it was. It sounded like a train, thunder and a landslide all together, and it came nearer and nearer, and then the ground began to heave and shake and rock. I stayed on my bicycle for a second, and then fell off and got up and tried to run, staggering about from side to side of the road. To my left I saw great clouds of dust, which I afterwards discovered to be the houses falling and the earth slipping from the sides of the hills. To my right I saw the band at the end of the lake torn asunder and the water rushing out the wooden bridge across the lake break in two and the sides of the lake falling in, and at my feet the ground cracking and opening. I was wild with fear, and didn't know which way to run. It seemed as if it would never stop, and my one idea was that it was the end of the world. I hoped it would be over quickly, and was expecting the ground to open and swallow me up. And

then it ceased. I thought it had lasted fully ten minutes, but it had only lasted about 30 seconds. I ran as hard as I could with my sister to a friend's house a little way off, and to my horror the house was levelled with the ground, not a stone standing, and Government House, to the right, was the same. Then I knew that Shillong must be absolutely wrecked.

I started off alone to try and find my father and mother, who were out driving. As I went along everywhere it was the same—not a house standing and people were rushing about, wives looking for their husbands, parents looking for their children, everyone stricken with terror, no one knowing whether those belonging to them were dead or alive. I then rushed on to the cricket ground, where I found a crowd of people collected. They had all been told to go there, because everyone expected another shock, and that was considered the safest place. There were some who had been ill in bed and had rushed out in their night gowns with bare feet and some half dressed, some crying and some in hysterics,—everything in the wildest state of confusion. And then the rain came and it poured. This seemed extraordinary, because before the earthquake there was not a cloud to be seen, and five minutes afterwards we were surrounded with cloud and mist. Then everyone started looking for shelter, and half of us went to the cricket pavilion which was built of wood and had stood, and half went to a row of thatched sheds which were usually used as a bazar; they were also wood.

The next thing to be thought of was shelter for the night, and the Gurkha soldiers managed to dig out some tents and put them up, and a few went into them, but most of us preferred staying together in the pavilion where we sat up on benches all night, with the rain beating in on all sides. Continual small shocks made us think it was all coming over again. At each shock everyone got up and rushed out of the pavilion for fear it would collapse.

At about nine o'clock some of the men managed to boil some chicken and rice for us, but everyone seemed too frightened to eat. The night seemed as if it would never end, and we all longed for daylight. At last it came, and most of the energetic ones went off to see if they could dig out any of their clothes and other belongings, but others were too unnerved to stir. Most of the men behaved splendidly. The morning dragged on to the afternoon and then came more anxiety. The natives prophesied another earthquake at the same time that afternoon, and there were several severe shocks. The shocks never seemed to cease; they came about every ten minutes all night and day. By degrees one got used to them and didn't jump up and rush out.

Then came another night not nearly as bad as the first. Nearly all of us turned into tents and slept on mattresses on the ground, but the damp and rain were dreadful. There had been no time to dig trenches round the tents, and the ground was soaking. I slept on a mattress which was wringing wet, in my wet things. It was two days and nights before I was able to change my things. All the time they were wet through. Some people, of course, had managed to dig out some of their clothes, and, therefore, were better off, but those, of course, who were in their nightgowns and could only manage to get a cloak to wrap themselves in, suffered dreadfully.

Day by day things cleared up. Shocks grew fewer and fewer. News came in from the surrounding country telling people that those belonging to them were safe, and that other places, excepting one or two, hadn't suffered as much as we had. Then small huts were built for us in or near our own houses, where we could superintend the digging out of our things.

The first post that came in caused tremendous excitement, and when the telegraph wires were mended and communication restored with different places everyone felt happier.

I don't think there could be a sadder sight than Shillong—one of the prettiest places in India,—absolutely wrecked, and every house on the ground,—all the work of thirty seconds.

MISS BEADON'S EXPLOIT.

In a letter to a near relative in Calcutta, and dated Shillong June 22nd, Sister Katie Beadon gives the following graphic and interesting account of the circumstances under which the heroic rescue of Mr Macnaghten was effected. After explaining that she had only reached Shillong the previous day, and that she found her patient delirious, she writes —

“When the window of the room began shaking he jumped up in bed, and screamed out ‘What is it? what is it?’ I said ‘Keep quiet, it’s only a thunder-storm.’ At the same time I could hardly stand. The whole floor was heaving. There was so awful creak, when my patient sprang out of bed, and made for the door. At the same time I saw the ceiling give way, and I only just dragged him back and pushed him down by the side of the bed and flung myself over him when the chimney came crashing through and a big almirah fell at the back of me. I was struck on the back by a brick. For some minutes there was a dead silence, and we were choked with dust, the ground heaving up and down. I began to say the Lord’s Prayer, and then shouted at the top of my voice. After some minutes I heard the bearer calling to me to say he could not reach me. I called out ‘Go to the window,’ and then I struggled for life. I got free, and half dragged, half-lifted Mr Macnaghten to the window. He could not help himself a little bit, and how I got the strength I don’t know. After squashing him through the window I tore off the blankets and shouted to them to take him off the wet grass. They shouted to me, ‘Come out,’ but I felt I must get him some clothes, which were on the other side of the

room. I said 'Get him brandy. I'm coming Take him off the wet grass He is dying' I had just got the things I wanted, when another shock came and in came the wall, the rest of the chimney and the roof, and barred my way to the window I made up my mind I must die like a rat in a trap, and shouted 'I can't get out' Then I heard a servant calling me to come out, and again I made a desperate struggle, and got to the window, where I stuck I don't know how I got out, but I was nearly dragged to pieces It was so tiny a space It was pouring with rain, so I made a little hut of rugs and a chair and got the patient in, and for an hour I stood in the drenching rain when some gentlemen and the doctor came to say the only in all the station was some sheds which were used on market days in a swampy place called Labam We made a hammock of rugs, and I took Mr Macnaghten down with the help of some coolies, and there we poor half drowned mortals huddled for ten awful days "

The note is in pencil Miss Beadon is a grand daughter of the late Sir Cecil Beadon, Lieutenant Governor of Bengal Better known as "Duster" Aacio, she is unhappily a sufferer from rheumatism which must have made her later experience in the rain a trying ordeal So slight is her physique that it has been a matter of some surprise that she should have stood the strain of preparing for the medical examinations which she has passed in a most creditable manner

DESTRUCTION OF TURA.

SOME PERSONAL INCIDENTS.

The abnormal weather experienced of late has culminated in a most fearful earthquake, which suddenly came on at about 5 10 P M on the 12th instant The previous three days were warm and sultry and attended by sounds of distant thunder and rumblings Suddenly on the evening of the 12th instant, there was a sound of thunder in the north east corner of these hills, and almost simultaneously an earthquake of unusual violence Not one public building or private

dwelling escaped, while large fissures and cracks are to be seen intersecting the roads in every direction. Bridges have utterly collapsed, and roads are blocked by fallen rocks, trunks of trees and *débris* from the jungles. A most notable and curious feature of the earthquake at Tara is the comparatively little damage which the Mission (American Baptist Union) has suffered, for their houses remain almost intact. Amid all this disaster how thankful we all are that not a single life has been lost in Tara, and even the sick in the various hospitals have been safely housed in sheds.

The earth still quakes badly, and we are subjected to sudden shocks of various magnitudes at intervals, sometimes pretty regularly and at others irregular, but on the whole there are, perhaps 150 to 200 shocks in the 24 hours, six of which was of greater magnitude than the rest.

The Deputy Commissioner, Captain Howell, and his sister Miss Howell, were about to ascend the Tara Hill in fifteen minutes' time, but the former was detained at the catchery for a time on duty, and while on his return home experienced the main shock. As he put his foot to earth in coming out of his office the ground gave way, and he was obliged to sit down on the ground until lifted up. The Deputy Commissioner's servants had already ascended the hill and were about half way up to the top when their advance was intercepted by falling earth and rocks, which soon defaced the road, and they had to bent a hurried retreat downhill.

I was in my tub having my bath, which for the first time within the last two months in Tara, I had taken in the afternoon instead of in the morning, while my wife and children and their English nurse were in the drawing room about to have afternoon tea. Then the sudden shock came, and all the furniture, crockery, glass, pictures and plaster off the walls began to tumble about to the accompaniment of a loud rumbling sound under the earth, as it were, and a quaking which increased in intensity every second. It was like putting so many shells into a basket, and shaking them up with a rapid

sitting motion from side to side. At first I did not realize what it was that caused my tab to sway about and the water to splash. I rose up, and found the earth heaving, while the wash hand stand, basin, ewer, cups and glasses, tooth brushes, etc., danced and rock I about in the most ludicrous fashion around me. I rushed to the inner door to open it and search for wife and children, but could not open it as boxes, furniture and plaster had come up against the door and blocked it entirely. The back door was the only way of escape. I managed to burst it open, and, thank God, it was clear and I could go out as the sections of the thatched roof had slithered down on the four sides of the house like a pack of cards and blocked the way to all the entrances and exits except this bathroom and the one through which I later on extricated my poor wife and children and their European nurse and our bearer, who were rushing about frantic for a way to escape. I wrapped a towel round myself and ran out into the open to the front of the house, where I naturally expected to see my wife and children as the drawing room, which opens out into the verandah in front is their usual place for tea at that time. On arrival I found the whole front of the house blocked by the fallen section of thatch from the roof and only one chink left in the south west corner of the verandah. Through this I broke my way under the iron railings and extricated the inmates from under them as the verandah floor had given way and disappeared at this spot only. All round was shut by the fallen roof which blocked the whole of the outer surroundings.

The main shock of the earthquake lasted for about five minutes, while it gradually died away in another ten minutes and minor shocks took its place at regular intervals of five minutes or so, and later on there were intervals of $2\frac{1}{2}$ minutes for I consulted my watch as to time. My dear children had just been out in the garden, my wife tells me, and were coming into the drawingroom up the front steps when it all occurred in an instant. There was no time to consider, the whole of the walls were tumbling in, the pro-

tures, etc, falling on everybody around. My wife shouted to the nurse "Earthquake!" and seized one child, while the nurse seized the other. The nurse who was in front, rushed down the front verandah steps in frantic excitement, when the steps gaped open and her foot got into one of the fissures and she was tripped up. The section of roof then came down, and her little charge, my younger son, was concealed under it where it had sagged. The bearer pluckily bore the weight of the whole roof section on his back as it had slithered down, and thus saved the child from being crushed under its weight.

The Hospital Assistant was seated in the office writing when it came on. The almirahs containing poisons and drugs fell and broke open, strong sulphuric acid gushed out and spread on the floor, giving out strong fumes while mixing with other liquid drugs. The fumes entered the office-room through the broken walls, and nearly suffocated the native doctor, who was pinned to his chair, speechless, but with one supreme effort he managed to get as far as the outer door, and then crawled on all fours into the verandah. No sooner also he came immediately over to see me, and arranged for the sick in consultation. One of the missionary gentlemen who saw my house tumbling, also very kindly came over to help, and offered us shelter in his house, where my family are lodged at present. I am daily digging out fragments of my property from the mass of *debris* and puddle in the ruins of our house, for after the earthquake very heavy rain has poured down, and as the house is roofless our property is all, buried in the sunken floor amid plaster, stones, bits of glass and broken furniture.

It is the same in all the other official bungalows, except the paddie within, which they have escaped through an intact roof, but yet it is a mass of ruins.

TENT-LIFE IN SHILLONG.

SHAKING DOWN IN THE RAINS

Shillong, June 22

I was obliged to finish my letter somewhat abruptly yesterday. Under existing circumstances, time and space

are not always available for writing, and at the best one can but write in snatches subject to interruptions of all sorts. Just now a raid of dogs through my tent, chasing a cat, has somewhat upset order and equanimity.

Rain is now (8.30 A.M.) falling heavily. It is well we made the most of fair weather yesterday drying clothes, tidying up and visiting our fellow outcasts. I am glad to report good things of all. Women are bearing up bravely and well. Men are doing all they can nobly, unselfishly, and thoughtfully, to alleviate suffering and rectify discomforts. The children alone find amusement in the common calamity, and for the most part seem to thrive in their free and open life. In the years to come it will be a strange tale to tell the little infants at present so unconscious of all things but mother love, and that, so far has been all powerful to shield and shelter them. Our doctors are kept busy sharing their anxieties, and with all success cheering them. I think I told you in one of my former letters that the Gurkha lines were totally destroyed—hard indeed, on the men who are working so well. Invalids were rescued from the hospital in safety. Only one man has since succumbed.

The regimental musical instruments have gone in the general smash. All are utterly wrecked. In the ordinary course of events, had the 12th of June been a fine day, the band would have been on the cricket ground—the instruments, therefore now intact and sound. As it was, they were all crushed and buried as ruins as they lay.

To-day shocks continue with more or less frequency. While the early part of the night was tranquil, from 6 to 7 A.M. we had a succession of four shocks. They cease to alarm us now, but no doubt all are carefully enumerated and considered by those who are able from a scientific point of view to gather facts and consequences therefrom.

2.30 P.M.—Great heat has succeeded the heavy rains of the morning. Tents are scorchingly hot and one almost sighs for the cool effects of the rain. A curious phenomenon appeared about 11.30 and remained in-

tact for over an hour. A rainbow, forming a complete circle, and perfect in its prismatic colouring, appeared to surround the sun.

The Roman Catholic settlement here was entirely destroyed, and great was the suffering of the Sisters and Fathers until relieved by our good Deputy Commissioner and Mr. Arbuthnot. The monastery in course of erection by the Fathers in their spare time has been entirely destroyed, and weeks of love's labour lost.

ISOLATION OF ASSAM

DAMAGE OF TEA GARDENS

It is difficult to convey any idea of the intense feeling of relief which prevailed in these parts when communication with the outside world was once more reopened, and it was found that other places had suffered to a somewhat less extent than we ourselves had done in this province. Why we should have remained ten days without any Calcutta dak still remains a mystery, seeing that the Goalundo route has never been blocked, but this is a question which local postal authorities will have to answer. Gauhati presents a curious sight from the river bank, the bungalows have collapsed, and the Europeans of the station are living upon the Government yacht. It may be safely said that there is hardly a tea garden which has not suffered more or less severely, in one way or another, and those which have sustained no injuries to their machinery consider themselves very fortunate. The destruction caused to the Tezpur Balipara Tramway is said to be well worth seeing, in one place the embankment has been bodily removed, the rails still remaining intact upon it, while in other parts the rails are twisted and contorted almost out of recognition. Active measures are being taken by planters in all the districts to restore the roads and bridges, and to reopen all the local means of communication.

There was a short but distinct shock of earthquake at midday yesterday (June 21st), sufficient to make the china

rattle upon the shelves, and since the big shock on the 12th not a day has passed that there have not been several slight tremblings, gradually growing less in force and frequency

The native population seems to have quite settled down to its customary occupations, and there is now no probability of a panic—unless in the event of the shocks increasing in force again

P S —Rather sharp shock this evening (June 22) at 7 30, and several slight tremors through the night The restored native confidence is once more trembling in the balance

The ironical contrast between the Jubilee rejoicings in England to day and the general depression and wretchedness surrounding us here is very present in the minds of Her Majesty's loyal but overwhelmed subjects in Assam

The welcome news has just come that telegraphic communication will be re opened to morrow

DISAPPEARANCE OF HILLS

Burdwan, June 23

I am sorry to say, although to day is the twelfth day, we have had very heavy shocks to day, and labour is terribly demoralized At the south end of the estate the landslips are terrible and the greater portion of a range of hills has entirely disappeared I may mention I fancy I am in the hills midway between Shillong and Cherra Punji When I have time I'll write you about it but my tea house and bungalow are level with the ground and all my riding and driving communications are cut off

(*The Englishman*, Wednesday, June 30, 1897)

REOPENING OF THE LINE TO DARJILING

THE FIRST THROUGH TRAIN

A correspondent writes from Darjiling on the 26th instant —I came up with the first passenger train which left Calcutta at 11 40 A M The first effect of the earthquake was

experienced was crossing a bridge somewhere between Sarra and Nettore. It is a large bridge of some eight or ten spans on high brick columns. The bed of the river just below the bridge had been bricked in, and this gave way from the shock causing the pillars to sink somewhat and putting them off the straight. The girders were propped up with logs of wood. Our train was pushed across the bridge by gangs of coolies, three carriages at a time. This took nearly an hour. Another bad bridge was crossed in pitch darkness, and I felt glad when we were safe over. One engine pushed the carriages across and another met them on the other side and took them on. For over fifty miles I should say we had to go at about three or four miles an hour the line was so much damaged. Sulphamari suffered most. There the whole line is torn up, and the embankment thrown completely out of shape. The rails took the shape of the letter S in an extended form, and it was risky work dragging a train of over 25 carriages along it. The driver deserves great praise for the careful way he piloted us over all difficulties. We got a sort of a dinner at Sultanpar about 10 o'clock at night, and arrived at Silliguri at 12 next day, two hours late. I never travelled up the D H R so quickly, and we got in just at 7 P M. I now hear the "Pagla Jhora," that piece of the line that seems determined to defy all engineering skill, has gone again and will take some days to repair. I hope it will be ready before we go down, as it is no joke taking children over those broken parts of the line.

DAMAGE TO MILITARY LINES NEAR JALPAIGURI.

The shaking began at Bakra Daar, Jalpaiguri, a few minutes past five, and rapidly increased in intensity. Of course we all got outside as quickly as possible. There was a rattle and roar going on all round. Masses of the hill broke away and hurled into the valleys below. The whole of the lines were severely damaged. The hospital and two or three of the barracks became simply heaps of stones. The remainder are cracked in all directions. Two of the three picquets are

uninhabitable The VII (D O O) Bengal Infantry Right Wing are here just now. The forest bungalow, the circuit house, and a new pucca house in course of construction all collapsed. The road from Balas to the plains is destroyed, and an entirely new one will have to be constructed. Everybody spent the night under canvas on the parade ground. The men are still in tents, but those people who inhabited catcha bungalows have been able to return to them.

From Alipar Duars we hear similar reports. The Jail and D. S. O.'s house are destroyed, the hospital is condemned as unsafe. Kuch Behar is said to be in an even worse state. It is reported that not a pucca building remains, and that there has been considerable loss of life. The European residents there had narrow escapes.

The planters have suffered severely. Factories have collapsed, now bungalows fallen and other buildings are much shaken. Added to all this it was the tenth day before we received any letters from any place beyond Kuch Behar. The earthquake was on the 12th, and our first dak arrived at 12 noon on Tuesday, the 23rd. Fifty miles of railway line destroyed, and ten days required to get letters across the gap. That says a good deal for the Indian Post Office.

UNDER THE GARO HILLS

MOUNTAINS SCARPED WITH LANDSLIPS

We have already given an account of the havoc wrought at Tura. Our correspondent continues — The only provision I could collect for my wife and children that day, after the earthquake, when the bearer and I ventured in for blankets and rugs for our little ones amid falling plaster and rafters, was half a currant cake which I discovered in the floor amid a lot of dust, and which my wife made for tea. Nothing else did we venture to bring save coverings and a little food and our camp beds, which we unearthed. The secret of the American Baptist Mission houses standing intact and bearing so heavy a shock as described, so well, is that they are con-

constructed on a better principle than officials' houses and public buildings, being on piles with boarded floors ; our house is what is called a frame house, and moves elastically. The walls of their houses are boarded, instead of being of okra, with mud and cowdung plaster outside, which protects from driving rain during the rains. This is well worthy of study for future construction of houses in Assam. The Deputy Commissioner and his sister, Miss Howell, are safely lodged with one of the other missionaries and a missionary lady. We have, indeed, to be exceedingly grateful to our missionary brethren for their great kindness and protection in this time of great distress. The poor native inhabitants of Tura are scattered about with their families wherever they can safely find a resting-place or shelter, while a large number of Garos are living in the compound of the Baptist Union Mission, their houses having been demolished, while others are afraid to remain in them. The Garo idea of an earthquake is that the world rests on an elephant's back, and when the animal moves and shakes itself, the shocks are experienced. Poor simple-minded people ! I fear there must be many casualties among them in the interior, and many homes made desolate and buried, for the hills have signs of great landslips in the districts.

We anxiously await news from the outer world as to how you all are, and to know whether the effects of this terrible catastrophe are spread far and wide. God forbid I fear this will be long in reaching you, but I have made an effort to give you a brief sketch of what we have gone through, and what we are also now experiencing with our children and our servants, who, poor creatures, are without houses. We fear if communication is closed, as is fully expected, the price of rice, etc., for some time until communication is re-established, will be very high, and the poor will suffer. Let us, however, all unite in thanks to the Author and the Creator of all things that we are not worse off than we are now, although homeless.

The earthquake is probably of the "wavelike" and "vertical" character, and not the "whirling," which latter

is said to be the most serious and disastrous. Its direction, I should imagine, is north east to south west, as the rumble preceding it came from the former in the latter direction; but last night it seemed as if it came from the south-west and it might possibly be concentric in character or currents of an opposite direction causing vertical movements on meeting. The transverse diameter of the current extends, I should imagine, from a line diagonally across Tura, between the station and the missionaries' quarters as one limit, right away to the east and north east, towards Shillong and beyond the Khasia and Jaintia Hills most likely Daryling has perhaps just missed it, as I observe that the hills in that direction as far as the naked eye can see are not scraped with landslips, as those to the north east and south and south-west. Of course I may be wrong, for it is merely conjecture. Considering, however, the abnormal conditions of the barometer and thermometer of late along the Himalayas and also in the plains generally, the effects of this earthquake might be as far reaching as that of Lisbon was. If so, we have before us another great disaster to cope with in this land, in addition to the plague and famine, but the discoveries of Professor Humboldt and others seem to point to the coincidence of these events. As I now sit and write there are shocks of earthquake at intervals,

KARIMGANJ, SYLHET

The shock varied considerably in intensity and direction in different parts of the subdivision. At Karimganj itself the Subdivisional Cutcherry, the Munsiff's Court and the Charitable Dispensary, which are all pucca buildings, have not suffered at all except for a few slight cracks in the floor. In the bazar, however, on the other side of the Notia Khal, most of the houses and shops have been seriously damaged. There are large wide cracks running across the bazar in all directions. These cracks, which are now full of water, are gradually extending, and it is feared that before

very long the whole of the bazar will disappear into the river. The soil has subsided three or four feet in different places in the bazar. Pucca houses have collapsed in the *baris* of three local zemindars—Kali Kissors Pal Chandri of Pauchakhanda, Iswar Chandra Dutta of Dewadi and Sajid Raja Chandri of Atgram.

In the tea gardens, the pucca walls and pillars of most buildings have either cracked or fallen down, but nowhere has the damage either to buildings or machinery been such as to cause the manufacture of tea to be stopped. The local roads have been broached in a few places owing to the collapse on bridges. There were several bad land-slips in the Pass over the Dowalia Hills and across the Pattoria Range. Along the river bank several *baris* have been ruined, but the loss of life fortunately has been very small, the number of deaths reported among natives being under 20. Some tea box contractors have had their workshops all destroyed on the bank of the river at Bhanga-Bazar. The damage to the railway embankment and the bridges south of Barlikha station is very bad, and it is feared that the line will not be open again till the end of next cold weather.

Great dissatisfaction has been felt here universally with the Postal Department. The postal arrangements seemed to have been completely crippled. The first Calcutta mail received after the earthquake was on the morning of Sunday, the 20th, and it brought the *Englishman* of the 15th June. During the next two days the papers of the 13th, 14th, and 16th were received. The telegraph authorities deserve great praise for their prompt action in expeditiously restoring communication with Calcutta and Upper Assam.

NARAYANGANJ ROUSED.

For once we have been stirred out of our dulness and monotony, and nothing short of an earthquake would do that in such a sleepy hollow. I was in my dressing room,

getting on my riding "kapra," when suddenly the house began to shake, as the shaking became violent out side into the compound, I went *deshabille*, and had the pleasure of seeing the house tossed about like an omelette in a frying pan, cracks opening and shutting about four inches. The worst part of the shock lasted about two minutes, and a great deal of damage has been done to all pucca buildings, while every chimney in the place shows signs of having had a swing. Messrs M David & Co's premises have suffered most of all, and I see they are busy repairing. Messrs. Ralli's have only had to take down a small piece of one godown, and Mr H F Wilson has had to take the roof off his small "pucca" godown.

On the other side of the river the ground opened in places, and the obur in front of Mr Wilson's bungalow sunk in two places about one to two feet, Mr Macfarish's bungalow has had to be propped up in front, the ground having given way. The Barra Koti and Hafiz Munzil are very seriously damaged and are uninhabitable.

As something had to be done to commemorate the Diamond Jubilee and to cheer us all up, a Gymkhana was held in Dacca on the 22nd, an account of which may be left to the correspondent who is reporting the Jubilee.

(*The Englishman, Thursday, July 1, 1897*)

ROMAN CATHOLIC BUILDINGS OF DACCA AND KRISHNAGAR

The Roman Catholic Bishops of Krishnagar and Dacca appeal, through Archbishop Goethals, S J, of Calcutta, to the general public, to assist them with funds to restore the churches and other buildings that have been damaged by the recent earthquake. The former prelate states that "the earthquake has damaged so much of the Cathedral at Krishnagar that it must be pulled down and rebuilt anew, except the apse, which is of recent and solid construction. Likewise the convent at Krishnagar must be levelled to the ground,

and a new construction made. Meanwhile the lower floor of the Episcopal house has been adapted for a church, and the nuns have retired into the dormitory and school-room of the girls." A subscription has already been opened, and the sum of Rs 650 collected. The loss of the Mission at Dacca is serious. "The beautiful Sister's house and Orphanage is a total wreck, the church badly cracked and will have to be rebuilt, the handsome and large church in Bardhura, erected only a few years ago, is a heap of rubbish." An appeal has also reached the Archbishop from the Administrator-Apostolic of Assam stating that "a great calamity has befallen the Mission. The earthquake of the 12th instant has made the Catholics homeless in less than one minute and a half. Nearly all their churches and homes are ruined, and many of their things have been ruined and spoiled through the rain. They are in great distress not having the means to rebuild churches and houses."

(*The Englishman, Friday, July 2, 1897*)

EXACT TIMING AT PURNEAH

As it is important to have the exact time of the recent earthquake, I may say it occurred here at 4 31 P. M. (railway time). I was bathing at the time, and hearing the rumbling sound, thought it was the train coming in past the indigo factory where I am at present, the first shocks being east and west. I ran out at once and stood outside of the house, a large thatched building with thick brick built walls. The shocks changed almost immediately to north east by south-west, and it was with the greatest difficulty that I could stand. The trees were all shaking as if in a strong wind. It was the Mohamedan festival of the Moharram, and about four or five hundred people were near my catchery, with their "tazias." All these people fell prostrate and rolled about on the ground. The shock lasted about 3½ minutes. My watch was keeping exact time with my clock, and after the shocks ceased, I went into the house and compared my watch with the clock and found that the shocks had lasted 3½ minutes.

Almost every arch in my house has been injured more or less. The factory buildings such as the vats, boilers, etc., have not suffered. The caka house with a large corrugated iron roof held out well owing to the tie rods, or I fear it would have collapsed. The earth cracked in many places in my compound and bluish-black sand, mud and water was thrown up here as well as in many other parts of the district. The Railway line east of Katihar Station, E B S Railway, was injured by its sinking and being cracked. I went into the station of Purneah on the morning of the 14th, and drove all over the place and saw the destruction that has taken place. A large two storeyed house, belonging to Mr Shillingford, has suffered very severely, and will have to be pulled down. Mr. Arthur Forbes's two storeyed house has had the upper storey completely wrecked, and only escaped utter destruction owing to new additions having lately been made to it. This new work has saved the rest of the house. The Purneah Cathedral Church has partly fallen down, Drommond Lodge has also suffered very badly. The large upper storeyed house belonging to Mr O Dowling has been severely shaken and cracked. A house in which Mr Williams, sub-manager of the Durbhanga Raj, was living, has suffered terribly and he had a narrow escape from being severely hurt. The big house belonging to the Durbhanga Raj, occupied by Mr P Duff, has suffered considerably and will have to be partly rebuilt. A house belonging to Baba Dhurum Chaud, in which his manager, Mr O J. Shillingford was living, is a complete wreck. The Club has also suffered to a certain extent. The Courts have escaped with very little injury. All other buildings, including the Protestant Church, have suffered more or less. Everyone has taken out his furniture and stored it in stables and out houses.

The destruction to houses and other property is enormous. Many people are living in tents and thatched hungalows that were unoccupied before the earthquake. The damage done in the City of Purneah is very great. A very handsome carriage, just purchased by Baba Dhurum Chaud, has been

completely smashed. He has also lost a lot of his buildings, which have collapsed. The shocks have been continuing almost every few hours up to yesterday when I left the civil station. From every side reports are coming in of damage done to indigo factories and other large buildings.

P. Durr.

DINAJPUR.

While the Moharrum fair was in full swing on the 12th the earthquake occurred, and immediately the people rushed off in all directions to see to the safety of their houses. Since then most of the townsmen have been living in thatched houses. An astrologer from up-country has been terrifying the ignorant people with predictions of Doomsday and the end of the world. Even the more unfrightened people say that the earthquake is a scourge sent to chastise the rich for not opening their purses for the relief of the famine-stricken. The Maharaja and two pleaders suffered severely. The District Judge had a narrow escape. One death is reported.

SURVEY OF NARAINGANJ.

In your dlik edition of 28th instant, "Esposos" states that the earthquake was from N. E. to S. E., which is incorrect. The quake began at 5-7 P.M., lasting five minutes and took the direction of S. E. to N. W. and the upheaval from E. to W. The damage done is even more extensive than stated. In his account of the grotesque aspects of the affair he forgot to mention that a young lady was in the same predicament as the gentleman, and that from his office to the level crossing, he himself made a record time, notwithstanding the stiff wall he had to negotiate, which was taken in real good style.—SPORTSMAN.

(*The Englishman, Saturday, July 3, 1897.*)

DAMAGE IN SOUTH SYLHET.

[FROM OUR OWN CORRESPONDENT.]

So much has been communicated to you regarding the damage done by the earthquake, and that of an unreliable

port, but nothing serious. The Medhup Cherra bridge, which appears as if it had been built on alluvial deposit, has gone, and in the neighbourhood the *dhan kels* are badly cracked, and in most eccentric fashion. Opposite this bridge there is one (*kutchia*) belonging to the Local Board, and this has assumed the appearance of a corkscrew, the soil all round having opened out and swayed about, crumbling the bamboo material of the bridge. Large fissures up to the present time remain as evidences of the violence of the upheaval. Passing further on, there is considerable subsidence in the high embankments, but the Longleh bridge seems to have stood the test well. Now, from all this description it will be seen that there was no necessity for such a break in our dak letters, as most of the line was open for trolley traffic, and even if it was not, there is a Government road running parallel with the railway all the way from close to Akhaura to Karimganj and this road has been open to traffic all the time, and if the railway officials had had any go in them, the mails would have been trolleyed on, when possible, and the rest completed by foot runners.

Apparently the earthquake only injured badly the line above Akhaura, and this cannot be so bad as was at first anticipated. As I wired you yesterday, we had official intimation that it would be open for "goods traffic" in a month as far as Akhaura, so that the distance which was really badly damaged is reduced to about 35 miles. If goods traffic can be resumed in a month, then trolleys could have run all the time, and besides, if they could not, the Government road alongside was available for runners, but for nine days this portion of the district was cut off from the outer world, and it was by a personal inspection of the post offices in the neighbourhood that I found out that our "deferred" telegrams were in the mail bags waiting an opportunity to be posted, but regarding which not a single Postmaster could give you any information. We may blame the Post Office officials, but the railway authorities are not free of responsibility in the matter as they are bound by contract to deliver

the mails, and as soon as possible. The Dolcherra Swamp, which is the worst disaster on the line, was not visited by an Assistant Engineer for three days after the earthquake, and the Executive Engineer took nine days to arrive. The distance from Karimganj, where the Assistant Engineer lives, is 24 miles and 55 miles from the Executive Engineer's headquarters. To those living in cities where supplies can be obtained at a few minutes' notice, the gravity of the situation does not, perhaps, appear so great as it really was. Near the Dolcherra Swamp there are a large number of gardens, and as the population of these, perhaps, in the rough approaching 20,000 souls, is dependent just now on imported food, and which had been carried over since the railway was opened—what the sudden stoppage meant may be imagined, and still more, the indignation of the planters who immediately wired down to send supplies by the steamers to find that their telegrams had been quietly sealed up in a dak bag, and left lying in the post offices waiting a lucky turn of the wheel of fortune to get them away. Had the public been informed that their telegrams were not being sent, doubtless special messengers would have been despatched by steamers to inform the Calcutta Agents of the gravity of the situation, but eight to nine days elapsed without any response, and then, strict enquiries being made, the above disgraceful state of things was revealed. To thoroughly realise this, I ought to have said that this group of gardens was isolated until the railway was opened, and except by boat traffic, many had no approaches. What a boon the railway was one can easily imagine, as well as what a disaster was *nearly occurring* for want of food in a year of scarcity like the present, when practically all the food is being imported to keep down rates and a searching enquiry should be made and no favour shown, although it is sincerely to be hoped that there will be no recurrence of such a catastrophe as to necessitate an appeal to the public press in order to put the public service in order.

DESTRUCTION IN ASSAM

Our Darrang correspondent, writing on the 18th was still in some doubt as to the bad news from Shillong. The railway line at Tezpur has suffered severely in parts, as have also many of the gardens in that district. In some places the machinery is badly injured, and this means disastrous consequences, not merely to the large capitalist, but also to the small shareholders. Every district in Assam seems to have suffered more or less, notably Dhubri, Gauhati, and Mangaldai. Roads are in a terrible state—in many parts scored with wide fissures—while the land has sunk in places to a depth of several feet, leaving the undestroyed bridges high and dry. Rivers have overflowed, and changed their courses, while floods are adding fresh horrors to the general discomforts and desolation all around.

(The Englishman, Monday, July 5, 1897)

THE UPHEAVAL IN SOUTH SYLHET

A VEXED QUESTION SOLVED

[FROM OUR OWN CORRESPONDENT]

The almost total destruction of the town of Sylhet by earthquake on the evening of the 12th ultimo may revive the old question which at one time formed a great bone of contention between Government and the planting community. Until the seventies but little tea was planted in the Sylhet district, and we think that we are right in saying that only some six gardens or so existed prior to 1872. About 1874 this district began to be talked about as a tea producer, and since then enormous extensions have been the order of the day, and now Sylhet ranks second in the list of production of British-grown tea and in consequence is entitled to some voice as regards its administration. Prior to 1830 all legal business was conducted at what is at present known as the headquarters subdivision, and if anyone will glance at the map, they will be at once struck by the isolated position of the head-

quarters station and will not marvel at the grumbling of the Planting community who for the most petty case got up by the police, had to travel into Sylhet station to be present in Court, a distance of 50-odd miles from the greater number of the newly opened out gardens. To in some measure stop this outcry, Mr. Luttmann Johnson, the then Deputy Commissioner resolved to decentralise the station, and picked out Maulvie Bazaar as the headquarters of South Sylhet subdivision, Hahiganj of the subdivision of that name, Karimganj subdivision and Sunamganj subdivision, Sylhet remaining as headquarters of the subdivision of that name and residence of the Deputy Commissioner, with European subordinates at each of the above-named centres. At the time that this arrangement was carried into effect petitions were got up and an agitation set on foot to get the headquarters of the South Sylhet subdivision changed to Kamilganj, a small bazaar situate on the banks of the Doloi River, about 11 miles to the south-east of Maulvie Bazaar, and on the line of the Assam-Bengal Railway. The object of this agitation was to point out to the "powers that" be that the place was much more central than Maulvie Bazaar, and among other proposals was one that would have been certainly for the good of the district, namely, the subdivision of the district into two Deputy Commissionerships, the Kushiara river to form the dividing line.

Sylhet district is by far the largest in the Assam Province, and is considered very hard work for one man, and the division would have been a good one, and the Planting interest, which is mostly situate to the south of the Kushiara, would have decidedly scored; but the fates were against it; for, if our memory serves us rightly, Mr. Luttmann Johnson, who was at home on furlough at the time, on being sent for by the Duke of Devonshire (then Marquis of Hartington and Secretary for India) pooh-poohed the idea that the district was too large for one man to administer, and in consequence the Secretary of State for India declined to interfere. One other great reason we believe standing in the way was that as Assam was a poor province and in a straggling condition

its finances would not stand the strain of altering the headquarters station, when already a sufficiency of pucca permanent entcherries existed for the conduct of administration of the district, and it is for this reason that the earthquake having solved the question, before permanent pucca works are again undertaken, it is expedient that this question should be reopened. There have been great changes in the district since the subject was thrashed out before, and we venture to say that, were the now reigning authorities consulted, the best interests of the district would be served by the removal of the headquarters to South Sylhet subdivision. The area of tea in the North Sylhet subdivision can by no means be compared with either that of South Sylhet or Karimganj, is fact, only a fractional part, while in the South Sylhet and Karimganj subdivisions the number of Europeans employed ran to, say, 200 against a possible 20 in North Sylhet. Another great argument in favour of South Sylhet is the proximity of the railway. By this we mean to Manivie Bazaar, for we presume as the Cotchery buildings there are comparatively unimpaired, it would be chosen in preference to Kamliganj although the latter possesses the advantage of being on the railway line. The disadvantage however to Manivie Bazaar would be greatly discounted if the present Chief Commissioner's views are carried out of the inter-district tramways, as no doubt if Manivie Bazaar were pitched on as a headquarters station, the Kamliganj Manivie Bazaar track would be one of the first constructed. This year temporary buildings will be run up in Sylhet station to carry on the routine of work, so that there is plenty of time to thrash this matter out in the interests of the Planting community. To any one acquainted with the district the situation of the present headquarters station is no anomaly, and now that the question of economy and expense has been arbitrarily put to one side by the earthquake, before any more money is spent, the one of convenience and efficiency of administration should take precedence. Both Habiganj and Karimganj are too much at the ends of the district to come into competition

with Manuvie Bazaar subdivision, in addition they are on the railway line and get at able in a few hours, so that the matter reduces itself to merely what part of Sylhet subdivision the headquarters should be removed and the choice lies between Manuvie Bazaar and Kamilganj. We venture to say that, although the latter would be more convenient, the existence of Cutcherries and Circuit House at the former would carry the day. But this is but a small matter compared to the accomplishment of the removal of the present headquarters station to a central spot in the South Sylhet subdivision. We consider that the question might well form one which the Tea Association should take in hand, and feel confident that if the present Chief Commissioner is approached, he will at once see the benefit of the change, and that there is no fear that this time the wants of the Planting community will be heeded.

TITABAR

June 29 — I am writing two days' sooner than usual as our mail seems to have to go round by Goalundo. Letters are still rather erratic. I have just got one dated the 11th instant, Calcutta. We were five days without any mail whatever. We still hear heartrending accounts of the suffering of ladies and children in Shillong. No change of clothes available, no spoons and forks, no beds, but much rain. *Bashas* with plank floors are being built.

I only hear of serious damage done to one bungalow here where the walls fell in, smashing all the furniture and ornaments in the drawing room, and most of the crockery in other rooms. The *mem sahib* has found a temporary home with a hospitable neighbour, while her other half plays at being Hannibal at Carthage. In other bungalows a good deal of crockery and glass was smashed, but not much other damage done. I see that exceedingly nice prophet, Mr. Liotard, says we are going to have another earthquake to-morrow. It will be fun!

Rain has fallen in good quantities—4.68 in the last four days—and now there is a strong, dry, westerly wind. Total to date 32.25 against 31.92. Mean temperature 82.70. Leaf beginning to come through the green fly and red spider, but weighing very light.

A DEATH AT BOGRA.

A Marwari who was badly injured on the day of the earthquake by a roof falling on him, died on the 1st instant. The temporary sheds for the Collectorate Cutchery are all finished. The District Magistrate has built a catcha house for his residence. Dr P. L. Watts is still residing in his kitchen.

(The Englishman, Tuesday, July 6, 1897)

SURVEY OF NARAINGANJ.

More recent estimates of the damage done make it from 3½ to four lakhs of rupees. The tremor of the earth still continues, and yesterday, the 2nd, at about half-past eleven, we felt a sharp shock lasting a second or two. I am afraid to state the direction lest I give "Sportsman" the trouble of refuting my surmise.—ESPERO3

AFTER THE EARTHQUAKE IN SOUTH SYLHET.

As a sequel to the earthquake, the monsoon has burst with unusual violence in the way of rainfall, and the whole country is flooded. It will be extremely hard upon the native population, which has suffered more than I can remember in the last 20 years, the amount of sickness being abnormal. Cholera has not been so prevalent as a bad type of fever, and the scarcity in food grains, which is being experienced in the district, is caused by the inability of the people to prepare rice, owing to this epidemic of sickness. It may not be generally known, but rice is never stored, and sun is required to allow the process of unhusking to be manipulated.

The continued dull weather we have had for some weeks, compounded with gaps made by sickness in the villages, has caused an enormous rise in prices, and gardens, it is feared, will have to import largely to cope with this. The weather for tea, excepting planting of young gardens, is execrable and everything is sodden with damp, so that the quality of the crop cannot be good. It is truly to be hoped that we are not getting all the rain at the beginning of the year the same as last year, and are again to be treated to another drought in the cold weather. What with drought, famine, earthquake, and flirtations of Mother Earth with Venus, this year will long be remembered. We are all trusting to Mother Earth behaving herself in a seeming and becoming manner the day after to-morrow, and that Venus will confine her ancient charms to Mars and Jupiter and leave us out of the question. It may be fun to Venus but it is death to us.

(The Englishman, Wednesday, July 7, 1897)

ON THE BRAHMAPUTRA.

It is now possible to sum up the damage done at Serajganj and other places along the Assam Valley. The Circuit House, Post Office, and Treasury were all very severely damaged, the first being totally unfit for habitation. A new pucca bungalow belonging to a Mr Knight was entirely destroyed and the mill chimney, mill and residences were damaged beyond repair, but fortunately the machinery has been practically untouched with the exception of the main steam pipe of the engine which was broken by the top of the chimney falling. It is perhaps fortunate that the pipe was broken, for if the machinery had continued to run while the building was falling, very much more serious damage was sure to have occurred.

At Rowmari the force of the earthquake is shown by a large crack in the ground extending for a mile in length and varying in breadth from two to six feet and about the same or possibly more in depth, large quantities of sand have been thrown up, in some instances it being over five feet in depth.

From off this main crack which runs in a north-west and south easterly direction, another goes at right angles also for a very considerable distance on its way completely undermining two or three houses in the village. The villagers tell me that no damage of any extent is done to property.

At Dhubri I was not able to go on shore to see what damage had been done, but I hear on good authority that it has suffered severely. From the steamer I was able to see that the church had entirely collapsed, and that Mr. Dobson's bungalow had also been so seriously damaged as to render it quite unsafe. At Goalpara the damage is frightful. The "Kjah Pattie," which is, I suppose, fully half a mile in length, is an absolute wreck, the majority of houses having sunk right into the ground, and in many instances nothing but the roof being visible. Except for one or two shops there is not a single house in its original position. The main rift, into which most of the bazaar has disappeared is now, I suppose, on an average about thirty feet wide by fifteen deep, but has since the earthquake considerably filled up with sand. When I tell you that one shop I noticed, which I suppose was at least 40 feet by 25 feet and probably stood from 20 feet to 25 feet in height is with the exception, of part of the roof quite out of sight, you may get some idea of the extent to which the ground opened.

The Treasury, Catcherrey, Telegraph Office, Post Office, and Circuit House are level with the ground, and the agents' bungalow has been so severely shaken that it is no longer safe and it is only due to its being a catcha pucca construction that it has not fared the same as the other buildings. I was informed by the Agent that several shocks varying in severity have since been felt, and that a strong smell of sulphur has also been constantly experienced which I can corroborate, there being a distinct smell while I was going over the place on the night of the 25th instant.

Gauhati is in a very bad state. With the exception of the Telegraph Office and ten bungalows not a single pucca house is left standing, and these are so severely shaken that they

will have to be pulled down and entirely re built All the Europeans living in the station with one or two exceptions are living at present on board the Chief Commissioner's yacht and intend remaining there until they can get some sort of place to live in built

No damage has been done up here, but I believe one or two factories at Bishnath and Texpur and Jorhat have suffered

A HARVEST OF FISH

Parahangy, July 4

No one seems to have yet noticed the strange phenomenon caused here during the earthquake of the 12th ultimo The day after the occurrence (13th) the market and some of the bazaar roads were literally crowded with very large-sized fish which was selling at two pice per seer On enquiry I was informed that they were found dead along the shores of the Kosi River, no doubt the result of a tidal wave unnoticed by any European

The shock passed here at 5 P.M., and lasted fully three minutes The Meharram festivities were then at their highest revellings and it was a sight to see the infuriated tambling down on each other and lying still and awe-stricken until it was over, when to our great relief the noisy crowd dispersed, and ceased for that day their fanatical demonstrations in honour of Emam Sahib The fanatics declare every object with the exception of the "Tajalis" oscillated, to which statement the knock-knacks on teapots and on fancy shelves against the walls as well as the delicate china and glassware are a contradiction, for they kept their ground unshaken just as if nothing had happened The shock therefore, could not have been of the severity of the one experienced in Calcutta, although all the pucca buildings in the district are more or less cracked, with the exception of the R. C. Mission House at Latona, and the picturesque new church built there lately by the Capucin-Fathers There are already a large number of native

converts working as ryots for the good of the mission as well as for themselves. The poor fathers have had large calls from the poor on their charity and generosity during the scarcity.

The earth opened out at a place not far from this, called *Gooria Bazaar*, and according to the story related by natives here, emitted water and sand which has now turned into sulphur and smoke. The heat has been very over-powering for ten days as we have had no rain since the 26th ultimo. The thermometer has been 95° in the shade, but since last evening there has been a slight change which has cooled the atmosphere a little, but without rain, which is sadly needed. The *dhadar* crop, which was a splendid one, is now looking scorched. The ryots are, therefore, having serious forebodings for the future paddy crops as well the *agkanie* too cannot be sown without rain.

(*The Englishman, Thursday, July 8, 1897*)

SCARCITY AND PRICES IN ASSAM.

Assam, July 1.

Of course, the all absorbing topic of conservation is still the earthquake. We are haunted by nightmares of falling bricks and collapsing roofs, while the reality of buildings levelled with the ground, of bulging walls, and of houses denuded of every shred of plaster but a few forlorn patches here and there, are sights from which we cannot escape. And such scenes of desolation must perforce remain until the cold weather sets in, for nothing of any permanent use can be done in the rain, when bricks are not procurable. Meanwhile it seems hard that the coolies should be allowed to profit so immensely by our misfortunes. I see by the letter of a Shillong correspondent to the *Englishman* that coolie labour is at the moment at the rate of two rupees a day, and that people are glad to employ them at that outrageous figure.

to build *bashas*, assist in excavating goods and chattels from ruined hungalow, etc. The loss of personal property has been very heavy to Europeans, and also to well-to-do natives, indeed in some cases it practically spells debt and ruination. Upon the top of this it is surely scarcely fair that such exorbitant rates should be permitted. The coolie, who is thus about to amass a small fortune at the expense of those who can ill afford it, has himself lost practically nothing, for the excellent reason that he has nothing to loose except perhaps a hut and a few cooking utensils, should he happen to have lived upon the side of a hill. Probably ten rupees or so would be the outside limit of his losses, representing, at the ordinary lowest rate of eight annas a day (although I am not certain that the ordinary Shillong rates are not either twelve annas or a rupee per diem), twenty days' work in which to recoup himself. Would twenty days' pay cover the losses of any householder in Shillong? One would think that under the present extortinating circumstances Government might have put down its foot and fixed the payment of labour at a lower standard than two rupees per day.

It will be argued that food supplies are scarce; that rice is Rs. 8 per maund. Even so, the increased prices affect the European quite as much as the native; but though the cost of living may be quite half as much again as formerly, neither Government nor private companies have seen fit to enhance the monthly salary of their servants.

Some interruption has been caused to the tea industry owing to the difficulty in sending away the tea while railways are in course of repair after recent damages, and cart roads have been impassable. Many buildings, though standing unharmed in appearance to the casual observer, are in reality so terribly shaken that any of those slight shocks which up till yesterday we have been daily experiencing, may cause them to collapse; and a severe storm, such as we have for the last few days been threatened with, would probably have the same result.

SHOCKS IN THE BAY

A naval correspondent, who has just returned from a steamer trip, says he felt the shocks at sea at the Sandheads on the 12th ultimo —I did not hear of it until the 29th. But one day I certainly felt the concussions of the "subterranean water hammer," and remarked to one standing near me that I could not only feel the vibrations but hear their rambling noise, and I could not help being taken back to March 1861 when I was coming to India as second officer of the ship Mornington, and when some 400 or 500 miles off the Brazilian coast, we felt the shock of the severe earthquake which did much damage in Brazil. On that occasion at about a little before or about 10 A. M., I was in my cabin and felt what seemed as if the vessel was grinding her bottom over a coral reef, or as if both anchors had been let go, or as if the men were rolling heavy water casks along the deck, this being accompanied with the self-same rumbles I heard lately at the Sandheads, but I soon satisfied myself that it was not the anchors let go or water casks being rolled along the decks by taking a peep through my window, and there I saw the men of the watch on deck working at the jobs incidental to crossing the line (as we were that day) in the fine weather of the trader. As to striking some rocks I, with Captain Lowen, ran away on the poop, and looking over the stern into the deep blue sea could see nothing near the vessel and rudder for many fathoms down. On consultation, we concluded it must have been a "seaquake." On arriving at Bombay some months later, we read in the papers of a severe earthquake some 600 miles from our position.

(*The Englishman, Friday, July 9, 1897*)

SCARCITY AND PRICES IN ASSAM

Assam, July 1.

For tea manufacture, the weather is everything that the heart of the most capacious planter could desire—hot, steamy, showers of rain by night, and fierce sun by day. Leaf is coming on well, and the outturns for June will go far towards making up the deficits on the preceding months. It is true that nothing can undo the mischief done to young plants by the prolonged drought, and that in every garden large patches of these have wholly died off, while many nurseries were total failures notwithstanding the utmost care expended upon them. But those evils are past and done with, and though we may heave a sigh of regret as we see the large bare patches, in what we hoped would be a symmetrical clearawo, we note with satisfaction that the survivors are fine, healthy, young plants, growing with speed and vigour.

Jungle also growing with especial vigour and rapidity, and the difficulty is to keep the gardens clear of it—a greater difficulty than usual just now when labour is required so urgently for so many works. Natives are complaining greatly about the cost of rice, which in Dhubri at the present moment, is said to be at Rs. 6 per mound, and although garden managers are obliged by the Act to supply it, if necessary, at Rs. 3 8 to the coolies, it may be imagined what an additional strain this will be to expenditure.

On all sides, too, from Europeans I hear of the increased difficulty in obtaining provisions locally. *Murghis* are now most difficult to get, and their price is prohibitive. Eight annas for a skinny chicken, somewhat smaller than a pigeon, is quite an ordinary price, while even in the lower part of Darrang, commonly supposed to be the land of *murghis*, nothing can be got under four annas, and I am informed by a lady in those parts that those to be bought are so ridiculously small that no plate of soup can be made with less than two

Not setting aside the cost, the difficulty is to get a sufficient supply and the unlucky housewife is often at her wit's end ; while the male creature growls at the scraggy joints set before him and uses unparliamentary language when the khansamah requests that the weekly bazar money should be doubled. Goats, too, are at famine rates, fifteen or sixteen rupees being quite an ordinary price.

Now why should these things be ? Goats and *murgis* are no less plentiful than they were a few years ago. If this state of affairs continues it will soon be impossible for Europeans to live in Assam, unless Government comes to the rescue with some sort of legislation.

(*The Englishman*, Saturday, July 10, 1897.)

IN THE HEART OF THE NAGA HILLS.

PARTIAL DESTRUCTION OF KOHIMA.

TIME FROM THE TELEGRAPH OFFICE

Kohima, Naga Hills, 30th June, 1897.—Notwithstanding a delay which was inevitable, an account of the earthquake in this part of Upper Assam may prove not uninteresting. First, as to Kohima, which is a little known Civil and Military station 1,080 feet above sea level, standing in the midst of the wild Naga range on the Eastern Frontier of Upper Assam, distant 92 miles north from Manipal and 123 miles south from Nigiting (or Shikariglat) steamer ghat on the Brahmaputra. It is in the same latitude with and some 200 miles east of Shillong.

On the 12th instant at about 5.50 p.m. (local time) we felt the first shock of the earthquake, whose violence made us somehow feel anxious in particular for Shillong and Calcutta, where we knew the numerous masonry building would have but little chance if the earth were even half as severe as we had experienced. I was sitting in my garden, facing east, just outside my bungalow, examining a

flower-bed, when I suddenly began to feel dizzy from an apparent at first gentle fore and aft movement. Not having been well, I naturally conceived I was going off into a faint, and instinctively pressed my forehead and eyes with my hands, but the peculiarity of the motion and vibration of the ground, both of which became more violent, immediately acquainted me with the fact that it must be an earthquake, and this was at once confirmed by hearing the creaking of the wood and iron work of my bungalow behind, and observing the consternation and alarm of my sister, who then rushed out of the verandah, and of all the servants, who also very speedily vacated the house. On rising and looking around I discovered the whole house bodily rocking—I should say at least six inches each way from the perpendicular at the highest point (25 feet)—distinctly east and west (not to be too particular), the exact situation width wise of the house being S E and N W, and my sister staggering about trying to maintain her equilibrium, almost believing that the world was coming to an end, while the cook in horrified alarm rushed forth from his kitchen repeating aloud the *Kulma* and calling out that there was something wrong with the bungalow roof I doubt if he felt reassured when I told him it was not the roof but the world that was shaking. The other servants could not keep their feet but fell flat to the ground, while the nunny kept running about, watching the house and

collected that certain valuable ornaments on mantelpiece would be inevitably destroyed. He made a rush to save them, but was taken aback. I could not at first move, and staggered west as if on board a boat in a heavy swell. As the height of the wave diminished, I forced my way into the house, dodging the orchids hanging in the verandah which were plunging violently to and fro (east and west) in a most extraordinary manner about two feet from the perpendicular each way. Fortunately not a single ornament had as yet suffered, and I had time to remove them all to the ground. The two mantelpieces of the house

faced back to back, N W and S E, that is in the direction opposite to the wave, as did most of the shelves and brackets, and consequently, with the exception of one small vase laid prostrate, not a single article was thrown down during the whole period of the wave. I afterwards discovered slight cracks extending upwards in both chimneys, and the clock on one of them, whose pendulum swung north-east and south-west, stopped short at 5 20 P M (local time) There were no rumblings or explosion sounds The appreciable part of the quake lasted some five minutes, as I ascertained afterwards from the Telegraph Master, who, working before his clock, had at once noted the hour, viz, from 5 24 to 5 29 P M, local time, or 16 24 to 16 30 (i. e., 4 24 to 4 30 P M) Madras time, which is 57 minutes behind Kohima time.

After the shock had passed, we had time to re enter the verandah (which I had again vacated) and sit down and pass some remarks about the visitation when, some four or five minutes later I guess, we heard several loud explosions like guns in the direction of the fort $\frac{1}{2}$ of a mile north-west, which I remarked must be either the mountain battery practising or bombs going off in honour of the Mohurram. But shortly afterwards news arrived of the effects of the shock in the station, of fissures and down-fallen masonry, and the cause of the explosions, which were due to the tops of four strong stone masonry chimneys of the 43rd G R Hospital in the fort having fallen on the iron roof Here then I would remark on the peculiarity of the earthquake as I observed it. The earth-wave evidently approached Kohima from the south-east and extended very slowly north-west, the vibration being slow and regular, formed like a long and heavy wave at sea, taking some four or five minutes to reach the fort, less than $\frac{1}{2}$ of a mile distant N W. This was the last one on the extreme south east end of the station, and we did not hear the noise of tumbling masonry buildings. Two or three minutes after the vibrations had ceased, and the time of this tumbling was reported by the doctor and Telegraph Master, both present, as

termination of the shock then experienced. This direction and dilatoriness are confirmed, among others, by two officers who were out walking at a point on the extreme south-west of the station and about two miles on the opposite side of the Valley in a direct line with my bungalow. They were first apprised of something unusual by observing great commotion among the native soldiers in the lines immediately below them to the north-east, some moments after which they themselves began to feel dizzy, and had to make for safety from the edge of the khud. I think the direction, therefore, is established so far as this locality is concerned. The fort, being the highest point in the centre of the station, suffered most. Besides the hospital, the orched roof of the Magazine—the strongest building as a rule—was rent in a couple of places and let in the rain and the east wall of the Treasury came down like so many loose bricks (what a fine cl once for lost!), the treasurer having a narrow escape and a small part of the fort ramparts gave way. The Magazine is of stone masonry and the only entirely pucca construction here. The barracks and bazaar were damaged very slightly by the fall of a few lake walls, etc.

The most curious phenomena were the series of fissures of which we have so often read but never experienced. We cannot boast of sand and water fountains, but these cracks were very numerous and observed in several places, the principal ones, however, passing up towards or through the fort, where the shock appeared to have culminated. I traced one long fissure for about $\frac{1}{2}$ of a mile extending from S. E. to N. W. from the regimental lines below to the hospital in the fort above, and Mr. Clancey, the Executive Engineer, continues to exhibit free of charge two respectable rifts immediately below his bungalow in the extreme south-west of the station (which, if it had been pucca, would have been in ruin) commencing from unknown distances in the south. We traced the most prominent, first north east for over $\frac{1}{2}$ of a mile up and down along the ridge to the Treasury in the fort, and then downwards and north-

westwards for another $\frac{1}{4}$ mile across the military police parade ground (where the first crack mentioned seemed also to pass down and get lost), skirting a large mass of rock, which it seemed to avoid towards the police hospital. I learnt this fissure extended up the hill northwards towards the Naga village above—passing between the Jail and the Rev Dr Rivenburg's compound—at any rate, within knowledge, for about a mile this fissure appeared to extend.

At 120 A.M. (local time) the following morning (13th) another series of violent shocks occurred, but of lesser intensity and duration (by one fourth, I should say), rousing up all sleepers. Since then in fact vibrations have every now and then been felt almost daily, and sometimes twice a day by several persons. The most marked of those noted were one on the 14th at 7.5 A.M., another at 9.48 P.M. on the 19th, a severe one, which dislodged the plaster from the north walls and widened the cracks in the Police Hospital chimneys occurred on the 26th at about 6.30 P.M., and another at 9.50 P.M. on the 27th—all Madras time, as noted by the Telegraph Master.

Another peculiarity observed here, as in most other places, was the sudden meteorological change. After a comparative drought extending some days (this year has been unreasonably dry) we had on the afternoon of the 11th instant a sudden violent downpour of rain, certainly for the period it lasted (half an hour) the heaviest this year, and exceeding any such storm I have ever experienced in or out of Assam.

There are some old residents of Assam here who say they believe this earthquake can perhaps only be paralleled, if then, by the very severe variation which occurred in Assam in 1808 or 1869. This may be the case as regards some localities, but can scarcely hold good for all the areas now affected, and complete reports are still coming in of whole villages having been hurled down the mountain sides, as at Cherrapunji, and other village, as in Sylhet, being bodily engulfed in the earth and their sites now only marked by *dhils*.

(*The Englishman, Monday, July 13, 1897.*)

THE CHERRAPUNJI DISASTER

WHAT A FALLING VILLAGE IS LIKE

A missionary resident on the Cherrapunji Hills sends the following account of the damage done in that district — The mission families in our field were safe, but owing to communications being interrupted we were some days before we got news from all the stations, and during those days we were very anxious. Every stone building, including mission houses, chapels, hospitals, schools, etc., is levelled to the ground. There is not a single stone building in all the Khasia and Jaintia Hills, Sylhet or Gauhati standing. You will have seen in the papers that only two European deaths have taken place in Shillong, but there are numerous deaths among the natives all over the country. There were between 30 and 40 in Cherra itself, seven of them being Christians, one a little orphan who was under our care and was instantaneously killed in my house while asleep, another, a patient in the hospital, who was waiting to get well enough for me to operate upon him for diseased bone, another was Mr Jones' house keeper, who was killed in the mission house on the top of the hill. In the coal mines near Cherra there were about 22 persons buried. The villoga of Sohrai, near Maladeo D B, was nearly all carried down the hill side, and about 60 perished. Another village near it, called Leitiam, was buried by the hill above it falling upon it, and 25 perished. Nearly the whole of the Shella village tumbled down the hill side into the river, and 106 are known to have perished. The same thing happened in Nurgwai and Tymong near Shella, and in that group of villages about 60 are known to have been killed. A great many were killed on the roads from Cherra to Jheriah Ghat and Shella. In Shillong there have been several deaths at the Government Printing Press, six or seven Marwari women in the bazar and from almost every village we hear of several having been killed. You would not know the neighbourhood of Cherra now on account of the

land-slips, which are still going on with every shock and every shower of rain, and the sound of that kind in our ears continually is very depressing. The hill on which our mission station is built is fast going down the ravine, and whatever portion of it remains will not be occupied again by this generation. The road from Cherra to Shillong has slipped down for miles, and probably will not be built again. The ground in very many places looks as if it had been churned, and in other places the long deep cracks look ghastly.

I was in Shillong at the time of the catastrophe. I had rented a house there, and was sitting in its veranda with four other missionaries. We had ample warning, and I shouted for them all to run, renaming myself at the same time with our little boy. I did this because the house we were in was old and rickety. The others laughed at me, but in a few seconds things became so serious that they also started to run.

The two ladies had to lie on the ground, so great was the oscillation of the earth. As soon as possible we went to our mission compound, about two miles away. The sight as we were going through the station I shall never forget. Ladies were rushing towards the Government House, some of the natives shouting "Allah!" others "Ram!" others "U Hlei!" everybody looking frightened, and some strong men ready to faint. Everything made of masonry was levelled to the ground. We spent the night in a hut in the native bazar, most of us sitting on rescued chairs and stools. The frequent shocks and the heavy rain pouring upon us made the night very miserable. On the morrow we moved to an empty club building that was standing. Last Saturday week we came to Mauphlang, but I had to leave my family and the others there because the road had fallen. I managed to come on here myself on Monday, and began to clear the ruins and build huts for the summer. My books are in pretty good condition but all the furniture is smashed, except a folding spring-bed that had been left resting against a wall. Some

boxes containing clothes are in good condition except that the Oherra rain has been pouring into them. My greatest anxiety is about getting a house to live in, because the heavy rain prevents the workmen going on with it. I am living in a Khassia hut. We are getting plenty to eat now. We were all in difficulties at one time because our food was buried under the ruins and communication with the outside world broken. But that difficulty did not last many days. Those of the missionaries whose houses had their inside walls kutcha managed to save a good deal, but the thick pucca walls have crushed everything crushable belonging to us. Every single building we have—the expence of 57 years—is totally ruined.

THE FISSURES AT PURNEAH.

As Mr Oldham attaches great importance to the exact time of the earthquake being fixed, I may say that the hour by the kitchen clock was 4 40, local time 4 40 P M. The great shock lasted three minutes, but the quake lasted nearly seven. All two storyed houses came down, one-storeyed pucca houses were shattered and ruined and bungalow with timber frame work in the walls stood the shock well, and only lost some plaster. At about $1\frac{1}{2}$ miles apart, commencing in the south at Hurdah, the earth opened out rents running from east to west for many yards. The cracks or rents were from nine inches to a foot broad. From one of these cracks, 290 yards south of my house, poured out mud, sand and water for about twelve hours. This rent is on high ground, and the stream of quicksand made its way down the lateral cracks to low lands, forming a volume of liquid mud 100 feet broad covering many cultivated fields. The rent north of the civil station is similar, and here too a stream of mud, water and sand poured out. A little over $1\frac{1}{2}$ miles further north at the city or old town, rents and cracks innumerable opened out, sending forth mud, sand and water, which eventually found its way into the Kosi. There is a report that some indigo has been covered to a great depth with quicksand. The cracking of the ground alarmed us dreadfully,

but as time rolled on and no news came from Calcutta, the fear was increased. The cutting off of telegraphic communication seemed the last stroke of fate. Purneah used at one time to be a volcanic centre, but we know that the pouring out of mud and sand from the cracks may be due to mere earth pressure when the wave meets with little resistance.

SHILLONG IN RUINS

WORSE THAN ANY DESCRIPTION

Little more than a fortnight ago, sad Shillong, in all its beauty, bore comparison with all hill stations in India. Naturally beautiful, with its lovely trees, hills, dale, and waterfalls, architecturally beautiful in its public buildings and private bungalows, tasteful and lovely in its compounds and gardens, and perfect order prevailing on all sides. Now, alas! the scene is changed, desolation and ruin reign instead. A planter, who came up from the plains last week to see Shillong in its ruins, walking and riding the journey over the broken roads as best he could, said the half had not been told him, that only seeing had convinced him of the damage which Shillong had sustained.

It may be that the facts concerning the disaster are now more perfectly known, for communication have now been possible for many days past, previously any letters or wires sent indiscriminately, had small chance of safe delivery, hence the delay, which has caused anxiety and disappointment to so many anxious friends. It seems that only some five or six ladies and fourteen children found shelter in Government House compound on the night of the disaster, and they all removed to their own or other friendly compounds on the following Sunday or Monday. Since last writing shocks have been less frequent, until last night (the 27th), when from 11 30 to 2 30 A.M. we experienced four shocks of greater severity than any since the first.

The rainfall has been less heavy of late, but severe gales have had a somewhat prejudicial effect on tents and tempers.

No doubt, however, the ill-wind has not been without its good effects in drying the tents, inside and outside, as well as the saturated ground. The once pretty compound of the hotel, itself in ruins, is packed with bashas, which look like so many knatcha stable erections.

To give some idea of the ruins was my first intention in writing to-day. It may be of some general interest to know Shillong now stands—or rather how much of it is left standing. Government House, from the front view, is simply a heap of stones, in one disorderly pile. The back view is the more distressing, for the fact of the ruins once having been a house can be traced in the broken remains of the corrugated roof. It evidently fell backwards. The servants' houses, all stone built, have also fallen in the same backward direction and have simply collapsed, the corrugated roofs sitting as it were on top of the ruins. The once pretty Cottage, associated with Mr. and Mrs. Allen, is a pitiable sight. Only some torn and shattered thatch is visible, and, this is mixed with the great Banganvillier, which overgrew it. In front there is nothing but a mass of *débris*. Flowers, as a rule, have not been destroyed, and these in their trim garden order are strange contrasts to the shattered remains of the houses. The church ruin is easily described; a mass of red stones in ugly disorder, the chief entrance standing fairly upright in their midst. The organ, of which we were so justly proud, the obtaining of which was part of the good work done in Shillong by Mr. Wilcocks, is shattered beyond all hope of repair. The box of beautiful vestments and altar clothes has been recovered unhurt, while the Trinity season cloth on the altar at the time of the disaster is cut and destroyed but not hopelessly so. Needless to say, that the altar, vases, crucifix and beautiful lamps are completely destroyed.

It is scarcely possible, however, to feel regret for any of these things, when human lives have been so mercifully spared. One hour later and the choir, numbering over twenty, would have been at their usual weekly practice, when

escape would have been almost impossible. A mere chance, too, prevented a young lady from being at organ practice while the disaster actually occurred.

Crosswell Lodge, the residence of our much regretted friend, Mr McCabe, is n and sight. One of the most beautiful houses in Shillong, it is also one of its worst ruins,—only a heap of stones and *debris*, with here and there some broken piece of furniture projecting. Here a bed post, there a sword, a broken desk or chair, a bit of torn carpet, a well known hat with its I O S colours, battered books, all speaking reminiscences of the man we mourn. About twenty yards from the house a favourite pipe was found, pitched there from the verandah with much of its furnishings. The circumstances which hallow the ruins of this once hospitable house are so sad that one shrinks from dwelling on them. Mr Gait's beautiful stone built house is also a special matter for regret. Much sympathy is felt for Mrs Gait, so recently entered on her new and happy life. All her pretty wedding presents are lost or ruined. Yet one hears no murmur from either Mr or Mrs Gait. Only one matter caused grief to Mrs Gait, and that the loss of her little nyah, whom she had left at work in her room a little while before, and who was buried in the ruins. Mr and Mrs Gait have found shelter in their coach house and cheerfully say they are thankful for it, and in addition are doing all they can for others.

Mr Monahan's house, Terraghar, is another complete ruin, but he has thrown open his compound and made many houseless friends welcome and comfortable in tents and bashes there. Mr Corkery has been glad to take up residence in his fowl house, while his coach house has been given up to ladies. Too busy attending in his spare time to the comfort of others, he has not troubled for himself or his lost possessions.

Major Priestley has to day returned to his regimental duties. The 42nd Garikha Rifles has hitherto been under

command of Captain Chatterton, to whom the highest praise is due for the prompt and thorough measures which he adopted for the care and protection of the sufferers by the disaster. As in addition to Major Priestley, Lieutenants Norrie and Strange happened to be absent, the greater credit is due to those on duty, namely, Lieutenant and Adjutant James, Lieutenant Shaw, and Surgeon-Captain Parry, in praise of whom too much cannot be said. The station is also loud in its gratitude for the able work done by Dr Campbell. In his own quiet unostentatious way he seems to have been the friend and adviser of all.

Before closing may I be allowed to contradict the statement made by a correspondent that a "European lady had been drowned in the lakes." The lady in question is alive and well, and, I am told, was not even near the lakes at the time of the disaster.

(*The Englishman*, Tuesday, July 13, 1897)

DACCA AFTER THE EARTHQUAKE

The earthquake has done much more damage to the town than was at first apparent. The double storeyed native houses all over the place are badly cracked, and as one passes along one can see pieces of walls, arches and roofs being dismantled and rebuilt and cracks plastered over. When one sees the bad mortar, like so much red dust, that the houses are built with, one can hardly understand why the whole place did not collapse with the severe and long shaking we had. The European's houses have suffered badly too, the Collector, Doctor, Judge, the Anns, the Deputy Post Master-General, the Superintendent of Kheddahs, all have had to vacate their dwellings to seek shelter elsewhere, with friends chiefly, as practically no other houses are available.

The Commissioner's house, which has just been done up and put in order for his residence, it having been his office before, is so badly damaged that most of it must be pulled down, and there are only about two rooms in it safe or fit to live in. Mr Salmon, who was living in the Club had a narrow escape. The bed in which he had just been lying was smashed by part of the roof falling on it. He was having a bath at the time, and only managed to escape down into the compound by the sweepers ladder when the wall fell down. The whole wall on the south east side of the room collapsed. The Mitford Hospital is badly damaged and many of the patients had to be put into tents at once. The police at the Mill Barracks are also under canvas, as the roof there fell in, and the building is not safe.

The Shah Bagh house, the Hosany Dargah, the Shahhen Medical Hall, the Lion Female School, and two or three large native houses are complete ruins. The north-west corner of the large verandah of the college fell down, as did also the south verandah of the dikh bungalow, which is so badly damaged and cracked that it had to be vacated. Many other houses in different parts of the town have partially collapsed. The old Mutt on the river bank near the water-works fell, killing four men, but the remains of three only have as yet been recovered from the *debris*.

Half the old tower of the Armenian Church, from top to bottom, has come down, and two of the pinnacles at the corners of the steeple of the English Church (St Thomas) were so badly shaken that they had to be dismantled. The old Lall Bagh ruins have not been much there. A couple of the little turrets at the corners of his fowl house, way have fallen, which rather spoils the pictures. Too busy a picturesque old ruin. A portion of the old of others, he has not yet come down. The Nawab's palace, since it seemed in the earthquake to rock.

Major Priestley has not suffered so very much in the duties. The 42nd Gurkha Rms on the third storey have been ' will probably have to be rebuilt.

Dilkosha, where the Nawab is living, fared much worse, the upper storoy being so hadly cracked that it has to be pulled dōwn. Fortunately for the Nawab he had a newly-built one storoyed bungalow in the Dilkosha garden, into which he and his family moved, and with tents and thatched houses for his servants is making himself as comfortable as possible under the circumstances.

Considering the amonnt of damage dooe we have to be thankful that the loss of life has been so small. Only seven or eight deaths in all have been reported. I hear from a person who has been out in the district that the ground is cracked in many places, there are huge fissures from four to six feet deep extending for many yards and wide enough to put one's hand down.

The old Club house and Racquet Court have at last been sold. The Nawab purchased them and made them over as a Diamond Jubilee gift to Government to pull down and make the site into a square, to be called the Victoria Square, for the benefit of the town. This will be a great improvement, as the buildings are rather an eyesore in what is otherwise a nice part of Dacca. Our new Racquet Court is to be built quite to the Club and as it is to be the proper size, not huge like the old one, will be a great boon to racquet players.

So a summer house it must be, a nice comfortable commodious one, at a safe distance from the house, and we shall be provided against the future, whether Mr. Laotard chooses to tell us his little secrets or not. I think I cannot be far wrong in imagining he had not said much about it beforehand, for the event seems to have come upon most people as a little surprise. We must, as a rule, expect these little freaks of nature to surprise us, but when there is a prophet in our midst he might speak out. Of course the earth might open and swallow my summer house but after all one will have done one's best, and one can't ever do more than that!

(*The Englishman, Wednesday, July 14, 1897*)

HAVOC IN THE JAINTIA HILLS

Mr H H Browlow, of Sandye tea gardeo, in the Jaintia Hills, situated a few hours' journey into the hills from the post town of Jaintiapur, in the Sylhet district, writes as follows to a correspondent in Cachar. When it is mentioned that the houses referred to as destroyed were all of the strongest possible build, stone and mortar throughout, and iron some idea of the severity of the earthquake in the Jaintia roofed, Hills may be formed — June 13 — It will be no news to you that we have had an earthquake as you will have had a share in it. I only hope that you have fared no worse than ourselves. The cottage, bungalow, cow kitchen and the Umtia tea house are all down—complete wrecks. A continuous earth tremor is going on as I write, varied by an extra shake now and again with a ramble away to the S E, varying in intensity with the intensity of the tremor. I hope all at Nemotha have escaped as we have.

June 14 — The earthquake occurred on Saturday, 12th instant, at about 5 P M, and it began as if all the buildings had been put into a riddle and some one had started to put them through. In less than ten seconds the stonework of cottage, bungalow, and kitchen was in disorganized heaps. Not one of us would have escaped if the visitation had taken place in the night, as every bed occupied the night before has been smashed. On mine lay about 50 mounds of stone. The others we have been unable to examine yet, as it is dangerous to enter the houses while the ground is still trembling, which it is doing now, 43 hours after the first shock. We are in V Don's house. The turbine house has been very little damaged, but we did not go into it on account of the risk of other shocks coming. The small kitchen out houses have all stood, the old kitchen wonderfully well, but the stone built cow-house fell, and we think some cows have been buried, but are not sure. Every pucca house in the valley is

down, but we understand that there has been no loss of life. Here, one woman has been injured. She was holding on to a tree, in a steep *ghoom* to prevent herself from going down hill when a rock crushed her arm, and it has had to be removed.

The first shock seemed to come from the south west. The position of the fallen houses would favour this supposition as well as the direction in which rocks have been moved that lay about loose, but since then there has been a very distinct rumble, that was at first nearly continuous, away in the south east, and every shock has come from that direction. We hear the growl and say to each other "It's coming," and come it does each time with certainty. The shocks have assumed a new type to day, and I hope we are past the worst. They come with less noise, are sharp, and pass far below rapidly as if along a line of fault which has relieving the tension.

June 15 — There were a good many shocks during the night and none of us got much sleep, but nothing very violent, and the rumble to the south east is lessening.

June 19 — It was great relief to get your wire. You have escaped the worst of the shock in Cachar, and can have no idea of its severity in this direction. Jowai, Shangdung, Shillong, Cherrai etc, have been wrecked. There is scarcely a pucca house left in the whole range of Khasi and Jaintia Hills, and large masses of land have been shaken down. A considerable number of deaths have taken place in hills and plains. The shocks still continue, but are not severe, and claim little attention. What has greatly added to the hardships of the houseless in Shillong is the heavy rain they have been getting. We, more lucky, had favourable weather. I have been unable to remove things from under the ruins, but fortunately, from the position in which the roofs of the houses lie, very little rain can get at them. Drifted moisture of course has its sweet will and can't be helped. Food has become scarce. Pamo may have something to do with this, or a failure of supplies caused by losses. My fear is that the Indian agriculturist will sit down

under the infliction and exercise too much of his beautiful, trust in providence and bring about a crisis. Strange as it may seem, the earthquake did not come without warnings, if only we could have realised their meaning. Early on Saturday morning near the Umtilia stream, I came on a tea bush, from the roots of which a most peculiar escape of air was taking place through a film of water left by a shower. I spent some minutes trying to find a cause for it but gave it up, and a few hours later we had the explanation. Some settlement inappreciable to our senses was going on even then.

June 20 — You remember the poonjee we stayed in when fishing. Three houses are left standing in it. All the rest have been swept down the hill by rolling rocks and loosened soil. Large portions of the Government roads in the hill have been quite obliterated. Doopee mnt near Jaintipur was rolled down the hill side and a man killed there, and Nawah Dhin's house kissed the ground, as his son it put in writing to me. There has been wonderfully small loss of life all things considered. Of the buildings here which went down, the bungalows made the best resistance, but none of them held out long. The turbine house held out, only parts of the walls have been thrown down. It is most fortunately practically uninjured. In every case the few posts used have held up the houses where they are not prone. The cottage roof rests on a few timbers, so does the bungalow roof and that of the new kitchen. Numerous landslips have taken place in all directions, and the nature of the shake becomes more evident as the rain saturates the loosened soil and make it slide. Every morning there are more bare patches to be seen.

June 23 — The wrecked buildings are simply heaps of stones most effectually separated. Actually stones lying on the ground were moved, even when embedded. Now, sixteen days after the great shake, we are still getting frequent shocks, as many as twenty in the twenty-four hours. Latterly they have become somewhat severe again—each shock is distinctly preceded by a resonant rumble away to the east,

and we are never taken by surprise. The source of all the trouble must be away east of Cachar bet, strangely enough, that place has escaped. We hear the noise start, and as the shocks touch us they pass away underneath. They now take a line considerably to the south of us, preserving the original direction, and seem very deep down. When the mischief started it was not so. Then the sound was close under us, so to say, and almost continuous at its source. It is more than likely that the line of disturbance set up will continue to be that along which any excess of tension will relieve itself, and we may for a long time to come have shocks which, if not powerful enough to damage buildings, will deter people from building.

INCIDENTS AT GAUHATI

A lady in Assam, writing to a friend gives some particulars of the disaster at Gauhati:—Just two weeks to day since the great earthquake. You would have heard from me before this if I had been well, but this is the first day since last week that I have been able to write. About fifteen minutes before the shock came I went over to the Ladies' Home, intending to return immediately, as I said nothing to my husband, who was busy writing. I had finished my errand and was thinking of returning when the first shock came. I said, "An earthquake! let us go out." We started out, but before we were far from the door, the earth shook so that we could scarcely walk. We went on a few steps when I heard the crash of breaking glass, and looked around and saw the little house that had been the Ladies' Home fall. We went a little farther to get out of the choking dust made by falling bricks, the chimney of another house fell. Miss A. was beside herself and ran towards the road. The thana fell next so she turned and came back to us. Then Mr S's house fell. I looked across the compound and saw our house go down. There was such a noise from the roar of the earthquake that we did not hear a sound of the falling buildings after the crash

of the Ladies' Home When we first came to Ganhatī, we made a rule that we would run out of the nearest door at the first tremor of an earthquake without waiting to warn each other. As I had seen nothing of my husband, I feared he had not succeeded in getting out, so when the house fell I was filled with fear. My husband did not know that I had gone out and as he ran he called to me He feared I was asleep, so went to my window and called but got no answer. The house was swaying so that he could not stay longer and had only time to get out of the way when the house fell The ladies sent a servant to tell him where I was, and he was soon over there It was almost impossible to stand The natives fell flat and clung to the grass to keep from rolling about When the dust cleared away we all started toward one end of the compound then I saw the Baptist Chapel flat on the ground

The river was boiling and foaming like the sea Steamers and flats were torn from their moorings and were out in the river Small boats were broken and capsized Every brick building in Ganhatī, including Hindu temples and Mussulman mosques, are broken down The hazzars are in ruins The English Church and Catholic Church have shared the same fate In many places sand and water came up, in the jail yard it spouted up ten feet The jail wall is badly broken, there were cracks in the ground in many places The river road just below us is so badly cracked that it is impassable for carts We looked in some of the cracks eight and ten feet deep

All the Europeans in the station had dinner and spent that night on the mail steamers We had to get off early the next morning It rained on Saturday night and nearly all day Sunday We were exposed to the sun and wet a good deal, which probably accounts for my fever My husband has had to watch his coolies to keep them at work He is so tired every night We are sleeping on the verandah of the Chang House where my school girls used to live We shall have that fixed up to live in, while we build a new house. Cholera has broken out in Ganhatī Five died in one neighbourhood yesterday and to-day.

DESTRUCTION OF HOUSES AND ROADS IN ASSAM.

> The people at Tura felt the suspense after the earthquake greatly as the following extract from a letter shows —It is a week to day since the first shock of the earthquake, and our first word from Calcutta comes to day, and that indirectly through an assistant of our Sargeant-Major While the first shock was very great here destroying the Treasury building the Cutcherry and all the Government bungalows it seems to me that the frequent shocks since, at all times of the day and night, and the suspense at not hearing from friends have been more trying for the nerves Mr P has telegraphed twice to Mrs P at Landour, but has received no word The missionary bungalows here are not badly damaged,—only the foundations are loosened somewhat, and a lot of plaster is knocked off There was considerable loss in provisions in some godowns Rice is 4 5 seers to day We are anxious to hear from you all, and will try and keep you informed Write even though you may think we have heard what you have to say

The following reports sum up the damage done in parts of the Assam Valley —

Goalpara—The brick pillars of our bungalow are all down, and where the pillars have gone the house has sunk, the stone pillars forcing up the floor The earth gave way on both sides There is not a brick building left in town The D O. bungalow, Telegraph, Post Office, Court house, Treasury, Jail, Dak Bungalow and Bazaar shops are all on the ground There have been slight shocks ever since the first one every few minutes One more stiff shock or heavy wind will finish the house The earth cracked and the water from the river rushed in and spouted up some places five or six feet and overspread the whole lower town Have not heard of much loss of life yet—only five The people all rushed to the hill top and from three in the morning until about nine we had rain,

Newgong —Our bungalows are still safe to live in but greatly damaged. The English Schools, Court house, Circuit House, Mr Kennedy's bungalow, Jail and one Hospital building are total wrecks. Dr McNaught's bungalow and the Treasury building are damaged. Our splendid river road is torn all to pieces beyond repair. In places the ground has sunk from one to six feet. The water boiled out of the ground. The wells are full of sand.

Gachati —All our bungalows are level with the ground. All our things are destroyed more or less. A few chairs have escaped. Two minutes after leaving the house it was a total wreck. Last night all the officers and missionaries went on the mail steamer to get dinner and spend the night. Just before we separated, Mr B. led a devotional meeting. All seems to be impressed with the terribleness of the shock. All night long the steamer would shake from the shocks. Many have been injured and several killed.

Tura —Destruction has been less in Tura than in some places, owing to the character of our buildings. No man only buildings could have withstood the shock. The damage to Government buildings in Tura is estimated at Rs 25,000, and damage on our two cart roads Rs 25,000. Several Government building sites are pronounced unsafe, and our Deputy Commissioner is considering seriously of moving the station to another site. We seem to have been in the section of greatest disturbance. The river near Manl achar has been diverted by the bed being elevated. Low ground has been thrown up and high ground depressed about twelve miles south-west of Tura, and very great disturbance in other parts of the hills. Some of the Government officers were absent, those here being accommodated in the missionary compound, as all the Government houses are uninhabitable. The Gares are much impressed by seeing how little our mission is injured, while all the Government bungalows and many other Government buildings are wrecked.

MANY KILLED NEAR JATRAPUR

The following is a translation of a report in Bengali addressed to the Civil Surgeon, Gara Hills, dated Mankachar, June 18 — Sir,—I beg to report for your information that the road from Tura to Damalgiri is in bad condition, several places being blocked. The dāk bungalow of Damalgiri is all right, but the roof and house are out of repair all the plaster of the walls having dropped. The road from Damalgiri to Garobadha is bad in several places as the road is cracked and four to five feet down from the level, and at several places water is on the road. The dāk bungalow at Garobadha is all right. The plaster has dropped down, but the articles of the bungalow are all right.

From Garobadha to Mankachar several places of the road are broken, and there is water on it. All the road is down about four or five feet from Rangapuri Hill to Rangapuri Ghât. There are several feet of water all along for about two miles. The dāk bungalow at Mankachar is all right, but water all around it. From Mankachar to Romari the road is all right, only the dāk bungalow has fallen down.

Jatrapur is very bad all along up to Parbatipur. All the line of rail is broken and two or three hundred men are killed. Rail stopped and telegraph office broken. Telegrams stopped, all the road stopped.

Goalundo — The railroad and roads are all right, and the dāk comes via Goalundo instead of Jatrapur.

FISSURES AT DINAJPUR

Dinajpur was one of the places where the earth was rent into fissures. The vibration commenced at about 4.50 P.M., and lasted for three minutes. There was scarcely a second storey left standing in the town. All the big buildings such as the Rajbari, the Collector's house, and the District Superintendent's house, were thrown down, and the occupants had to take to tents. The earth wave was apparently from east to west. All the low land in and round the town cracked, and water and sand, smelling strongly of sulphur, oozed

out of the openings. There were several upheavals and depressions in the beds of the rivers. Fortunately there was only one death.

(*The Englishman, Friday July 23, 1897*)

DAMAGE AT DACCA AND MYMENSINGH

MR GLASS'S REPORT

The Hon Mr. J G H Glass, Chief Engineer to Government, Public Works Department, accompanied by the Commissioner of the Dacca Division, the District Engineer and the Public Works subordinate, visited Dacca on the 8th of July and inspected the Government buildings. His official report of the principal damaged buildings is to the following effect —

Dacca College—The damage done to this building is considerable. The cost of repairing the damages was estimated by the Inspector of Works at Rs 12,000, but so far as I could gather the building can be made perfectly safe and habitable for about one half of that sum or less. It is impossible, however, to say what the cost will amount to until a detailed estimate has been prepared. I instructed the Public Works subordinate who accompanied me on my inspection as to what is required, and no time should be lost in drawing up the estimate.

Collegiate School Building—The building has been considerably shaken. The cost of the repairs is estimated by the Inspector of Works at Rs 7,000, but so far as I could judge they will not cost so much. An estimate can now be prepared based on the instructions which I gave verbally to the Public Works subordinate.

Jail Buildings,—The habituals' ward has received considerable injury in the west-end wall, and all the arches of the cross walls have suffered in a more or less degree. The cost of repairs is estimated at Rs 15,000, but I should think that a much smaller sum should suffice—possibly Rs 7,000 to Rs 8,000, or less.

Police Barrack—This building was, I understand, originally constructed for a mill, and has been converted into quarters for the Headquarters and Reserve Police. It has been very badly damaged by the earthquake, and the cost of repairing it is estimated by the Inspector of Works at Rs 70 000. The accommodation it affords is, I understand, far in excess of what is necessary for the police. The upper part of the building has, as is to be expected, suffered the most, and to thoroughly restore it would undoubtedly cost a good deal, but there does not appear to be any necessity for doing so, if the accommodation it affords is more than is required. The number for whom it is necessary to provide accommodation should be ascertained, and it can then be determined whether it would be cheaper to dismantle such portion of the old mill as is not wanted and repair the remainder or to construct entirely new quarters for the police. Allowing 70 square feet per unit, the cost of providing new lines for the police, taking the number at 200, and allowing for making use of the old materials available from the mill, would probably not exceed Rs 25,000. It would, however, probably cost less to dismantle the injured portions of the old barrack and make the remainder into suitable accommodation.

Officers' quarters, No 1—The cost of repairing the damage done is estimated by the Inspector of Works at Rs 8 000. The building has not received any great injury, and I roughly estimated that the necessary repairs should not cost more than Rs 1,000.

Outhouses attached to Police Lines—Some portion of this block has fallen in, and the estimated cost of repairs is put at Rs 3 000. I understood from the Public Works subordinate that all the outhouses are not required, and that a considerable portion could be dismantled. This should be ascertained. It is possible that a small sum will suffice to repair the area it is necessary to retain.

I reached Mymensingh on the morning of the 9th, and proceeded at once to inspect the various buildings, accompani-

Cholera ward —This has also been injured, and the cost of carrying out the necessary repairs is put at Rs 500 by the District Engineer

Enclosure (circumvallation) wall —Some parts of this have collapsed, and the cost of renewal has been put at Rs 2,500 Most, if not all, has been done

Quarters of District Superintendent of Police —Considerably injured Cost of repairs, Rs 1,500

Kotwali police station —I did not see this building The cost of repairs is estimated by the District Engineer at Rs 2 000.

COST OF REPAIRS

The cost of repairing the damage done at Dacca and Mymensingh, as estimated by the Inspector of Works and by me, compare thus :—

	Dacca Rs	Mymensingh Rs
By Inspector of Works ..	1,35,000	27,800
By me ..	46,000	77,300 to 1,00,000

The estimate roughly framed by the Inspector of Works for Dacca is unquestionably very much higher than is necessary, and, on the other hand, that for buildings at Mymensingh is much below what it should be Until the *debris* has been removed and the walls, etc., of the buildings carefully examined, so as to see the actual damage done to them and to admit of detailed estimates being prepared, it is not possible to calculate what the exact cost of the repairs will come to ; but so far as I can judge from the inspection I made the expenditure required to put the buildings into anything like satisfactory order will not be less than that estimated by me, and may amount to more

It is quite impossible that the staff of the District Boards can look after the repairs (*amounting in some cases to entire reconstruction*) which have to be done to public buildings in Dacca and Mymensingh The damage done to the roads and buildings of the District Boards is extensive, and it will require the full energies and undivided attention of the District Engineering staff to carry out the necessary repairs It will,

I think, be necessary to constitute a Public Works Division with head quarters either at Dacca or Mymensingh to repair the damages done to public buildings by the earthquake, and the sooner this is done the better, as it is of importance that the various offices should be properly accommodated without loss of time. I shall submit proposals on the subject in a day or two. The Dacca buildings can continue to be occupied while repairs are going on, but some inconvenience will be experienced. Under the circumstances, it is impossible to avoid that, and it will have to be put up with. The case at Mymensingh is different. There the buildings are so seriously damaged that most have had to be vacated, and it will be quite impossible to reoccupy them until they have been repaired, and to do so will take several months. In the meantime the Inspector of Works has arranged for the erection of temporary sheds in which to accommodate the offices, and every effort will be made to complete them as rapidly as possible.

(*The Englishman, Thursday, July 15, 1897*)

THE EARTHQUAKE OF 1762

A scientific report on the late earthquake is in process of preparation by the Indian Geological Department, and no doubt will comprise comparative observations on other recorded earthquakes affecting about the same regions. And we venture to think that so far as Calcutta is concerned, the shocks of 1897 will be found to have been by far the severest ever recorded. Setting aside the alleged earthquake of 11th-12th October, 1737 (new style), it is, perhaps, correct to state that the earliest of such earthquakes, of which we have anything like a scientific narrative, is one which occurred on the 2nd of April, 1763, and which violently convulsed what were then called the kingdoms of Bengal, Aracan, and Pegu, and by which 60 square miles of sea coast are said to have been permanently submerged. At that time Calcutta had the good fortune to possess as its junior chaplain a fellow of the Royal

Society, the Rev William Hirst, M A He had but just arrived in the settlement, and apparently gone to officiate at Chaudernagore and at Ghurratty, three miles south of that station, where Colonel Eyra Coote's forces were in cantonment In Chaudernagore the shock was felt, though Mr Hirst in his communication to the Royal Society on the subject says that he was himself insensible of it He went immediately to Ghurratty and there learned that the waters of the river and the tanks of that place had been so violently agitated that in many places they rose to more than six feet perpendicular height, of which"—he adds, 'I had ocular conviction myself' Almost simultaneously the shock was felt in Calcutta, where it was ascertained that "the agitation of the waters in the tanks rose upwards of six feet, and was in the direction north and south" He adds that "the height of the thermometer on Fahrenheit's scale was then at Calcutta at $95^{\circ} 30'$ —much higher than it had been observed to be during the whole month, the lowest descent of the mercury being 89 degrees In this month was much thunder and lightning, and there were fresh gales of wind at S E, the weather in general being close and sultry" Mr Hirst learnt that the most violent action of the earthquake was experienced "at the metropolis of Aracan," where it was reported by an English merchant resident there "the effects have been as fatal as at Lisbon" At Dacca, in Bengal, the consequences were also terrible "The rise of the waters in the river was so very sudden and violent that some hundreds of large country boats were driven ashore or lost, and great numbers of lives lost in them

At Chittagong also the effects were deplorable Mr Verelst, Chief of the E I Company's affairs, at that time at Islamabad, appears to have obtained a special report thence as the Company had much property in the district The report was written in Persian and of this Mr Hirst sent a translation home together with an independent narrative by one of the English officials One practical result of the investigations was that the assessment of the Company's

estates in the Chittagong district had to be reduced. At Chittagong, according to the narrative of Mr. Edward Gulston the young official before mentioned, the earthquake was felt precisely at five o'clock in the afternoon and lasted about four minutes. No less than eleven shocks were recorded that night and the next morning. The second was at 5-12, and lasted one minute. The rest were at 5-30, 7-0, 10-0; and on April 3, at 1, 2, 3, 5, 10-25, and 10-30 A.M. After these another was experienced between six and seven that evening, while "Harriet's Hill" was thought by everyone to be "in perpetual motion." Mr. Gulston describes the state of nervous excitement which prevailed in the settlement during the ensuing week. The ladies in particular were perpetually feeling shocks, to which, however, the glasses of water placed on the floors as seismoscopes gave no confirmation. In the primary convulsion the Chittagong factory, a brick building, was so damaged as to be not safely habitable; "thereabouts and in other places the earth opened and the waters gushed out prodigiously and in the chaise-road, especially towards the north quarter, there are great chasms two feet wide and upwards." At the time of the first shaking also great explosions were heard like the noise of cannons to the number of fifteen. "All the tanks overflowed their banks, fish were cast up, and the river rushed upon the shore like the surf of the sea." "I would not," concludes Mr. Gulston, "that such a shock as the first should happen at Calcutta for all I am worth, since of necessity the terraced houses must fall to ruin"

The native account says that the earthquake began at Chittagong with a gentle motion which "increased to so violent a degree, for about two minutes, that the trees, hills and houses shook so severely that it was with difficulty many could keep their feet, and some of the black people were thrown on the ground, whose fears operated so powerfully that they died on the spot; others, again, were so greatly affected that they have not recovered themselves since." (This narrative appears to have been written on the 10th of April.) "On the plains by the rivers

and near the sea it was chiefly felt with great severity. Our bungalows proved very convenient on so melancholy an occasion, for had we been in brick houses, they must inevitably have been shattered or levelled with the ground, as there is not a brick wall or house, but is either greatly damaged or fallen."

It cannot escape the reader's notice how precisely similar in their effects that and the late earthquake appear to have been. The narratives of 1762 would exactly fit the experience of many stations in 1897. The native narrator continues "The ground opened in several places so the town throwing up water of a very sulphurous smell, and several ditches and tanks were filled up, which are now level dry land." As to the direction of the shocks he says, "The motions were so complicated that we could not well determine their direction, being sometimes from west to east, again from east to west, and the tanks in some places overflowed north and south." After this he gives a long list of reports from various villages in the district, of which these are a few examples. At Burseagong "the ground in several places opened 10 and 12 cubits wide, and in some parts so deep that they could not fathom its bottom the water immediately overflowing the whole town, which is sunk about seven cubits." In pargana Do Hazarree the ground opened 200 cubits, and immediately filled with water, which is now unfathomable. At Bar Chara near the sea five or six coss of ground, immediately sunk, and out of four or five hundred people, above two hundred were lost." "Bar Celler Hill opened about forty cubits wide." Ces Lung Joom Hill one of the Mng mountains, is entirely sunk, and he concludes by saying, "as we are informed that there are two volcanoes opened, I am in great hopes these will prove a sufficient vent to discharge all the remaining sulphurous matter in the bowels of these countries, and put a stop to any further earthquakes here, at least for many years to come." This latter opinion is interesting in view of the mud geysers which are said to have broken out in Assam

It represents at any rate a native view of their significance. This was not the only earthquake in these regions. In 1762, Mr. Hirst reported another but very slight one which was felt in Calcutta on the 13th of July at 2-30 P. M. "The thermometer," he says, "was then at 87° 4' at a median; the wind S. W. and the weather fair, to this I was a witness myself, being then at dinner with Captain Eiser of His Majesty's 84th Regiment. The motion of the earth caused a very sensible vibration of the wine in our glasses and the shock was repeated twice at the interval of a few seconds." After 1762 neither Aracan, Assam, nor the Delta suffered any earthquake of severity, for eighty years.

(The Englishman, Monday, July 19, 1897.)

THE EARTHQUAKES OF 1842.

Since the tremendous earth convulsions of 1762, no record appears to exist of earthquakes anywhere within what seismologists have designated the "focal tracts" of the Gauges Delta, Assam, and the Aracan coast at all approaching them in severity until 1842. In that year occurred a series of shocks which seem to have convulsed the whole of North India from Afghanistan to the Gauges Delta. News came from the British force then occupying Jellalabad that on the 19th of February, violent shocks were experienced; while on the 23rd and 24th of that month and on the 3rd and 20th of April, the quaking was incessant there day and night. After this, month by month shocks were felt in various parts of the intermediate provinces until the 11th of November, when Calcutta was in turn smartly shaken. Until this date, even since 1762, only on two occasions is the Delta of the Gauges known to have been visited by earthquakes. In April 1810, two rather smart shocks were felt in the vicinity of Calcutta and as far as Murshidabad. Again on the 18th of September, 1829, two distinct shocks with "up and down" motion are recorded. From that date until November 11, 1842, the whole Delta seems to have been in perfect quiescence. In a long and learned memoir on Indian Earthquakes by Lieutenant R. Baird

mill, and the pigs and fowls, ducks, geese, dogs, and horses made a most hideous noise." At Howrah the principal oscillation is reported as "violent in the extreme." The *Friend of India* of November 17, 1842, thus describes the sensation of the convulsion of Serampur: A very severe shock of earthquake was experienced yesterday evening. It was accompanied by a noise which at first resembled some 'mighty rushing wind', and then the loud rattling of carriages over a stony street. The shock came from the eastward; the clocks of which the pendulum vibrated from north to south, were stopped, while those which stood east and west continued going. So violent a shock has not been experienced in this part of the country for the last twenty-five years. There was no unpleasant stillness in the air, previously to this occurrence; but the wind rose strongly from the eastward almost immediately after."

In Calcutta the Asiatic Society was meeting at the time of this earthquake, and the president made this note in the minutes: "The proceedings of the society were interrupted by two or three slight vertical shakes or heaves of the earth with a noise like the rumbling of a passing carriage and one strong horizontal shake from east to west or from N. E. to S. W. The whole took place within about a minute of time." It may be here remarked by way of contrast that in the late earthquake, which appears, so far as existing evidence goes, to have been by far the most violent that ever visited Calcutta, the Asiatic Society's house was not merely shaken, but badly riven in every direction, several of the pictures being precipitated from the walls. During the same minute of agitation the mercury in a barometer on the second floor of St. Xavier's College in Chowringhi was observed to rise and fall repeatedly to an extent of seven or eight-tenths of an inch. The water in a neighbouring tank of about 300 yards by 70 in area rose in considerable waves, while the river at the Botanic Gardens, where it is narrowest, below Calcutta, was visibly agitated. From a ship lying in the port a most ex-

traordinary phenomenon was reported. A strooge luminous appearance was observed extending from Chandpal Ghot north-westward for some distance. The moon at the time was densely obscured. This mystorious brightness is said to have closed in around the ship and immediately on this embrace "o general and severe tremor was felt throughout, as if o tant chain cable was grinding under the keel, or n sudden squall had strnck the ship." None of the earthquakes within the Gangetic Delta rocorded up to 1842 wore, according to Lientenant Baird Smith, accompanied by fissures opening in the earth—save that of 1737 (if it ever oconrred), in which as a lote tradition would have it, the steeple of the Calcutta church was swallowed up intact.

(The Englishman, Monday, June 14, 1897.)

TELEGRAMS

REPORTS FROM THE DISTRICTS.

GREAT DAMAGE AT HUGHLI.

[FROM OUR CORRESPONDENTS.]

Hughli, June 12.

This afternoon at five minutes to five we had a most violent earthquake. It began with a slight vibration and low rumbling sound. I was writing then in my room in an upper storey. I came out at once to the open roof, and to my surprise and horror saw all the blocks of building rocking violently to and fro, and portions of several falling down. People were leaving their houses, and the streets were full of flying crowds. Mr. Allen, District Magistrate, with his assistant, Mr. Venned, and the Motwali of the Imombara, Ashrafuddin Ahmed, were there. The Imombara clock turret, and dome, together with those of the Bandal Church and the French Governor's house have fallen.

The Obinsuroh barracks have suffered severely, portions of the Divisional Commissioner's quarters as well as the Civil Surgeon's quarters in the officers' barracks having tumbled down. The shock lasted for five minutes, the direction being north to south.

Hughli, June 13.—The earthquake again occurred here at a quarter to one this afternoon followed by heavy rain. Yesterday's shock threw down St. Mary's beautiful image on the Bandal Church tower, and part of the Collector's residence. Hundreds have been rendered homeless here and in the interior.

Burdwon, June 12.

A severe shock of earthquake passed through Burdwon to-day, commencing at 5. At the Rajhari several houses were seriously damaged.

NO TIDAL WAVE

Diamond Harbour, June 12

An earthquake of a most appalling nature was felt this evening commencing at three minutes after five. It ceased at 5 12 and during that time the whole country swayed to and fro most violently. The movement appeared to be from east to west as indicated by the water in the river and the tanks near by. For length of duration and severity of movement nothing like it appears to have been experienced here before and it is considered by the natives as an ill omen. There was nothing resembling a tidal wave.

Balasore, June 12

A smart and prolonged shock of earthquake took place to day at about 5 P M, the shock lasting about five minutes. The plaster of some of the old houses has fallen and there are many cracks in the pucca buildings.

Comilla, June 12

An awful earthquake took place here to day at 5 10 P M. It was of five minutes' duration. Several pucca buildings fell down.

Durbhanga, June 12

A sharp shock of earthquake was felt at 5 o'clock this evening. It lasted for five minutes.

Gidhaur, June 12

Very severe shock of earthquake at 4-22 P M (railway time), lasted four minutes.

Ohnpura, June 12

A shock of earthquake was felt to day at 5 P M lasting four minutes. The shock was also felt at Gorakhpur, Durbhanga, Masbrak, Maharajganj, and neighbouring stations.

Three inches and thirty nine cents of rain fell yesterday, the highest record since 1892.

Mozafferpur, June 13

Mozafferpur was visited by a severe shock of earthquake on Saturday at five o'clock, the vibration lasting about two minutes. The weather in Behar is bearing indications of the monsoon.

SEVERAL DEATHS AT DACCA

Dacca, June 13

* A most severe earthquake occurred at 5-6 yesterday afternoon and lasted five minutes. Great destruction has been done to property. The Shahhon Medical Hall collapsed, burying an Armenian family of seven. Five were recovered alive, and two dead. Parts of the college, the club, the dāk bungalow, Mitford Hospital, and Hoosany Dalnā have fallen down. The roof of the mill barracks has fallen in. The building is considered unsafe and the men have been put under canvas. Almost all the European houses are badly cracked, and several are in a dangerous state, the occupants being obliged to vacate them. The upper storey of the Nawab's Dilkusha House is badly damaged, and his Palace has suffered, also the Eden Female School and Shah Bagh House are in ruins. The Mint near the water works, has fallen, killing a man, and several native houses are down. There has been little loss of life as far as is yet known.

Gopalpur, June 12

An extraordinary earthquake was experienced here this afternoon at 4-45. The largest godāwn in the town shook steadily and continuously for 2½ minutes. The telephone wires, doors, windows, lamps, etc. were violently shaking, a pendulum clock was stopped. The motion resembled the vibration caused on board a steamer by powerful engines. The movement was from N E to S W. So far as is known no damage was done. A nor wester followed immediately afterwards with thunder and lightning and a fall of 1½ inches of rain.

Monghyr, June 13.

A severe earthquake shock occurred yesterday at 4-30 (railway time). The English Baptist Chapel is in ruins. Great damage has been done to property, and in the bazaar many people have been injured.

A TERRIFIC RUMBLING

Raniganj, June 13

A very severe earthquake was felt here at five yesterday afternoon lasting quite five minutes. It started with a terrific rumbling noise. Several of the houses have been damaged, mostly in the native part of the town. So far as is known no one has been hurt. The shock was the most severe one that has ever been felt here.

TWO INCHES OF RAIN.

Bankipur, June 12

A strong shock of earthquake passed over Bankipur at about half-past four (railway time), and lasted four minutes. The buildings were shaken badly. Yesterday we had a severe thunderstorm with a heavy downpour of two inches. Indications of more rain shortly. Temperature has reduced considerably.

Madhupur, June 12

A severe shock of earthquake accompanied by a loud rumbling noise passed over Madhupur, a station on the E. I. Railway, 182 miles from Howrah, at 4.30 P.M. (railway time). It lasted about three minutes. The people clinging to their children ran out of their haugalows in a fright until the rambling ceased, all asserting that this was the worst shock that had ever occurred here. The clocks all stopped through the shock and many houses in the native quarter have been damaged. No lives were lost.

Patna, June 12.

A smart shock of earthquake was felt here. It began at 4.30 P.M. (railway time, and lasted till 4.31. The vibrations were from north to south. One could plainly see the railway wagons standing in the yard oscillate north to south.

ALARMING SHOCK AT DARJILING.

MANY HOUSES DESTROYED.

Darjiling, June 12

Darjiling was shaken at 5 o'clock this evening by a most appalling earthquake, the severest ever known here. The

shock lasted three minutes, and has done incalculable damage. Nearly every house in the place has been more or less affected. Those that have suffered most severely are the Maharaja of Burdwan's property, Rosebank, Mr Price's house, Singamari, Major Mannsoll's house Saanysito, Mr Gayer's house in the Shrubbery compound, a part of the Shrubbery itself, Mr Jones's property, Hill side, the Anandale boarding house, the Hermitage, Caroline Villa, Castleton, Mr Harrison's bungalow, Mr O'Donoghoe's tea garden bungalow, the Curators house in the Botanical Gardens, a part of Collinton, the new block of the Woodlands Hotel, a part of Shannoa Lodge, and some houses at Jelapahar.

The shock was terrific, and naturally caused a great panic. The most serious damage, as far as yet known, is that caused to Rosebank and Saanysito, (which have collapsed), Mr Gayer's house, Hill side, Castleton, and Mr Price's house. These people are homeless, and have had to vacate their houses and take shelter with friends.

As the weather is very peculiar, fears are entertained of another shock, in which case the loss of property will probably be terrible. So far I have not heard of any loss of life.

DAMAGE ON TEA GARDENS

Darjiling, June 13

For fifteen minutes after the earthquake last evening there was a distinct rumbling sound and a peculiar stillness and oppressiveness of the atmosphere which seemed to forebode evil, and as expected there were no less than four shocks from eleven to four last night, another at nine o'clock this morning, another at noon, and another at five this evening. Fortunately they were slight shocks, which have apparently caused no further damage. It has been raining off and on since noon and the general opinion is that we are not safe yet, though it is impossible we can have another severe shock like last evening's. The manager's and assistants bungalows at Soom are down, and so is the manager's bungalow at Sungma. The buildings on the Bloomfield Tea Estate and Singtom have also suffered severely.

TRAFFIC WITH CALCUTTA STOPPED

Through traffic to Calcutta is suspended in consequence of some bridges beyond Siliguri having, it is said, collapsed. Passengers returning to Calcutta yesterday have had to come back to Darjiling from Siliguri, among them were the Hon Mr C C Stevens and Mr Macpherson. Last night many people spent the hours of darkness in wakeful anxiety. We all feel that it is a mercy yesterday's shock did not occur at night. Had this been the case the loss of life, judging from the nature of the house damaged, would have been great, as it is, most people were out of doors when the severe shock occurred, and with the exception of two coolies, who are said to have been killed by falling *débris*, there does not appear to have been any loss of life. We are in a great state of anxiety about our friends in Calcutta, where you seem to have had a very severe shock which is said to have been destructive. Telegrams have been flying backwards and forwards since yesterday, all day and night, the strain thus caused on the telegraph employees being very severe.

[ANOTHER REPORT]

A severe shock of earthquake, lasting over a minute, was felt at Darjiling at 5-2 P M yesterday. The oscillation was from west to east. Annandale House is a total wreck. No lives have been lost. Chimneys all over the station have been knocked down.

Hyalahat, June 12

A severe shock of earthquake lasting one minute and a half. Slight damage to buildings. Time about 5 P M. Preceded by rumbling and strong rush of wind.

Dumka June 12

A severe earthquake happened this evening, lasting two minutes. The hospital was wrecked, and the jail and Deputy Commissioner's house were badly damaged.

Barsoong, June 13

Violent earthquake felt here at 5.5 on Saturday evening. Several great trees snapped off. The walls of several houses are cracked. The direction was north to south west. Shock lasted three minutes.

ON THE BENGAL-ASSAM LINE.

TRAIN DERAILED.

Ka-ba (Tippera), June 13.

Serious earthquake shock, lasting five minutes, occurred on the Assam-Bengal Railway yesterday over a range of over a hundred miles. At nearly all stations from Akhaura to Latu, buildings fell. A passenger train was overturned at Shemsherganj, while the down mixed train was derailed and stuck at Montollah. The passengers had to be brought on to Akhaura by trolley. Two bridges have been seriously damaged, and the bungalow of the Assistant Engineer at Shais-taganj came down.

Chaudpur, (Tipperah) June 13.

A severe shock of earthquake lasting several minutes occurred at 4-45 on Saturday afternoon, and another slighter shock at two o'clock on Sunday morning. No damage was done here.

CRACKING OF THE GROUND IN MANIPUR.

Kohima, June 13.

On the afternoon of the 11th this station in the Naga Hills after comparative drought, was visited by a heavy storm of rain, $1\frac{1}{2}$ inches falling. On the evening of the 12th at 5-20 the severest earthquake within memory occurred, lasting five minutes. The direction was apparently from east to west. It damaged several buildings but four suffered most of all, the fire chimneys of the 43rd Gurkha Hospital being badly cracked. The tops of the four fell on the iron roof with a crash like the explosion of guns. No persons were injured, but the magazine roof was cracked. The cutcherry wall and parts of the fort rampart were knocked down, and long cracks in the ground, extending hundreds of yards, wide enough to put one's hand into, occurred at several places, extending from south-east to north-west. At 1-20 this morning another slighter series of shocks occurred.

(The Englishman, Tuesday, June 15, 1897)

REPORTS FROM THE DISTRICTS.

FIVE PERSONS KILLED AT DACCA.

Dacca June 13

Four slight shocks of earthquake occurred here to day, two about 2 A M, one at 8 30 and another at about one o'clock. The destruction to house property is very great, nearly every tall house in the town is cracked more or less. Only five deaths are reported. Mymensingh and Comillah have also suffered badly.

Sonada, June 12

A heavy earthquake was felt here at an elevation of 6,100ft. The first shock was from east to west and lasted about one minute at 4-52 P M. The house was shaken nine inches. The second shock was slight.

A severe earthquake was experienced at Hajo Town lasting for three minutes, at 4 40 P M. Factories and houses are damaged.

Alhaara June 12

A ruinous earthquake took place at Agortola to day at 5-14, lasting about four minutes. There were several waves from north to west. The palace and most other buildings were ruined, but no loss of life is yet reported.

CRACKS IN THE GROUND AT SILCHAR

Silchar, June 16

Deep fissures have appeared in the Bazar Road, throwing out water. The new railway station, in process of building has fallen down. The Colonel's house, occupied by the Steamer Agent, is wrecked. There are large cracks in the walls. The Mission House is severely damaged.

[ANOTHER REPORT]

An earthquake, lasting 30 seconds, was felt here at 5 20 to day. There were five distinct shocks. A wave on the river sunk several boats. Great consternation was caused.

among the inhabitants The wave was from north east to south-west

Allahabad, June 13

A startling earthquake shock occurred here yesterday. It was first felt at about 4.45 and lasted at least two minutes. Some little consternation was created which subsided on it becoming known that but little damage had been done.

Lucknow, June 13

A palpable earth tremor was experienced here yesterday evening. It lasted several minutes, and occasioned considerable alarm. Apparently its direction was from north east to south-west. Some property has been injured, but so far no fatalities are reported.

Cawnpore, June 14

The weather here has been unbearably hot, but this morning a slight drizzle rain has fallen, and the temperature is considerably lower. On Saturday afternoon at about half-past four there was a slight shock of earthquake, lasting about three minutes, the wave apparently passing from an easterly to a westerly direction.

Lahore, June 14

An earthquake shock was felt on Saturday evening at Cawnpore, Delhi and Meerut.

Agra, June 13

An alarming earthquake shock passed through the city about 5 P.M. yesterday. A number of buildings were damaged.

SHOCK IN THE MADRAS PRESIDENCY.

Madras, June 14

At 4.30 (Madras time) on Saturday afternoon a slight shock of earthquake was felt at Coconada lasting about five minutes. The direction was apparently from north east to south west. No damage to property or loss of life is reported.

A correspondent at Parlakimedi states that at about five in the afternoon yesterday three or four rather prolonged shocks were felt there. The vibrations seemed to travel from west to east.

Sihagar, June 12 .

An earthquake shock at 5 17 Lasted five minutes with vibrations and undulating movements Direction, east and west There was a mimic surf in the rice fields, buildings and trees moving ominously. A slight upheaval on the lake Pedestrians were seen reeling comically from side to side of the road Slight damage done to masonry The severest shock within recollection Seismic disturbance, is frequent in Assam When the soil is waterlogged the effects are more felt

SLIGHT SHOCK IN NEPAL

Katmunda, Nepal, June 14

A prolonged though not severe, shock of earthquake was experienced at Katmunda at about 4 40 p m on Saturday The shock lasted three minutes

Jalapaahar, June 14

The new blocks of buildings of St Paul's School are absolutely uninjured by the earthquake The old building is slightly shaken, and plaster has fallen, but the structure is perfectly sound All the boys are safe

Balasore, June 14

A prolonged and severe shock of earthquake was felt here on the 12th instant at 4 55 p m, lasting one minute and 20 seconds, the apparent direction being north and south with two low rolling and sudden jerks No damage is reported

Lakhipur (Cachar) June 12

A severe shock of earthquake is just over, travelling east to west Present time 5 10

Purnia, June 12

A sharp shock of earthquake was experienced here yesterday Rumbling noises were continuous and lasted for some three minutes, beginning at about 1 25 p m

Ramkanali Sorhori, June 13

Yesterday at 5 p m a terrible earthquake was felt The shaking continued for nearly four minutes, and the direction was from south to north For ten years we had not felt such a shock

used

Samastipur, Tirhut, June 13

A severe earthquake was felt here at 5 P M yesterday, the shock lasting fully three minutes. The movement seemed to be from east to west. The bungalows and other buildings rocked and vibrated violently. It was difficult to walk without falling while the shock lasted.

Dulaboherra, June 12

A prolonged and severe shock of earthquake was felt at 5 14 this evening. The buildings are damaged.

(*The Englishman*, Wednesday, June 16, 1897)

REPORTS FROM THE DISTRICTS

HAVOC ON THE GARDENS IN ASSAM.

Tezpur, June 13

A most violent earthquake was experienced here yesterday afternoon at 5 15 P M. The shock appeared to come from the south-west and to proceed in a north easterly direction. There was no noise or warning of an earthquake coming on, but a violent oscillation of the ground, which increased in intensity until the whole surface of the land undulated, so much that it was quite impossible to stand up without support. The main shock lasted about 3½ minutes, during which time many large trees were overthrown, while buildings oscillated to an alarming extent. After this a distinct tremor of the earth was noticeable for nearly an hour, small shocks continuing to occur at intervals until about 2 A M this morning. From what can be gathered at present the shock seems to have increased in violence as it proceeded north east. A vast amount of damage has been done, the full extent of which has not yet been ascertained. Several bungalows and leaf houses have been wrecked, and on one estate over 100 pucca coolie houses were thrown down. The railway telegraph line between Borjuli and Tezpur has been damaged, and in places rails have been broken and twisted, while a large bridge at Nongapara is badly buckled.

SOLDIERS UNDER CANVAS

Diamond Harbour, June 15

Since my last I have been busy gathering details of the damage done by the great earthquake. Our little station consists of only eight or nine pucca houses, all of which have suffered more or less. The Customs House, which stood the great cyclone of 1864, has been shaken to the foundation. There are cracks all over it, specially in the arches. The Post and Telegraph Offices have also been damaged, while the roof and wall on the southern face of the First Munsiff's Court have suffered considerably, the former letting the rain in most uncomfortably. Of the Fort, on the Chingrikhal, it is difficult to get any information, but the soldiers were all under canvas, and are quite thankful it was so. The Commanding Officers' bungalow outside the Fort appears to have suffered like the rest in cracks and crumbling. A peculiar incident of the visitation was the strange behaviour of the cattle grazing in the fields. With the very first rumbling they scampered about in the most erratic manner as if possessed by some evil spirit. The natives in the bazar and villages were panic stricken, and were to be seen running with all their earthly possessions to places of safety, and this, I learn, was due to the eccentric conduct of their cattle, from which they concluded that the phenomenon was something more than an ordinary earthquake—a visit from Belzebub. There were no vessels in the river, and with all the damage to huts and houses there has been no loss of life.

HOMELESS EUROPEAN OFFICIALS

Krishnagar, June 14

Krishnagar, the civil station of the district of Naddey was for the most part wrecked in Saturday's earthquake. All the Europeans have been turned out of their houses. The Judge has had to take refuge in the dik bungalow. The Collector, Joint Magistrate, and District Superintendent of Police are sharing the Circuit House between them, and the missionaries are sheltering in their own servants' houses.

COURTS AND TREASURY DOWN AT SYLHET

Sylhet, June 14

The Civil Courts at Sylhet have been destroyed by a severe earthquake. The Judge's and Sub-Judge's Courts are completely destroyed, the Munsiff's Courts are partially destroyed and quite unsafe. The records are buried in the ruins, and at present inaccessible. The Treasury Buildings have been destroyed, and Court fee stamps are at present unobtainable. No authentic information is to hand regarding the Mofussil Courts. Communications with the local Government, have been cut off.

Mymensingh, June 15.

The shock here was terrible. All the Courts and other buildings have fallen down, except the Post Office and Collectorate. The panic among the native population was incredible and many are left homeless. No deaths are reported. The catcherry is completely wrecked. No work can be done now.

FURTHER TREMORS

Daryling, June 15

There has been no further damage here, but the earth is not yet quiet. Yesterday there were three shocks, last night four, and to day two but they were all slight. No post received since Sunday from anywhere. Our only source of information of the earthquake damage done elsewhere is the telegraph, which is necessarily meagre.

Goalundo June 15

A great earthquake occurred at Goalundo at 5 P.M. on the 12th, lasting three minutes. Every pucca building was levelled. No Europeans were killed. Two ladies were dug out injured. Four miles of the railway destroyed. Great damage was done to gardens in the district.

Charahi, June 13

A very severe earthquake visited this district yesterday evening at about half past five lasting two and a quarter

minutes Much damage has been done to pucca buildings and tea factories Hospitals levelled, brick walls of bungalows and factories have fallen in, and mud walls of coolie houses collapsed No loss of life has yet been reported The first shock was followed by eight others, one severe occurring at 1 30 A M

EARTH WAVES AT LAKHIMPUR

Khawang June 12

A very severe earthquake shock was felt here this afternoon about a quarter past five, lasting over four minutes A long tremor was followed by slow, heavy waves The general wave direction was about south to north

Rangajanj June 13

A fearful earthquake occurred at 5 30 on Saturday afternoon Many buildings were damaged, and some were quite destroyed The severe shocks lasted six minutes, slight shocks were felt at night

Bilaspur, June 13

A slight shock of earthquake was felt here about 4 P M yesterday, accompanied by a strong wind and duststorm The earthquake lasted for about ten minutes

Delhi, June 15

Only a few persons here say they felt a slight shock of earthquake on Saturday evening No damage has been done Till Saturday the weather was extremely hot On Sunday night a storm of extraordinary violence came on, and lasted several hours

(The Englishman, Thursday, June 17, 1897)

HAVOC IN ASSAM,

ISOLATION OF PARTS OF THE PROVINCE

SIXTY LIVES LOST AT GOALPARA

A destructive earthquake occurred throughout Assam on Saturday evening, lasting three minutes At Tezpur the

time was 5 20 P M The entcherry, club, and church were severely cracked and damaged, also several bungalows Furniture was upset

At Mungledye, at 5 10 several bungalows came down, and the treasury split in two The earth opened and water spouted up several feet

Gauhati, 5 8 Great destruction here All the pucca buildings were levelled No lives were lost The residents spent the night on the mail steamer The roads are fissured for miles, and the railway has disappeared Telegraphic communication is stopped

Sualkuchi bank has subsided, and several huts have been swept away and lost

Goalpara 5 5 —A tidal wave destroyed the bazaar, and sixty lives are lost The earth is fissured and the country round about covered by mud and sand, which are welling up The telegraph office, catchery, and all pucca buildings are destroyed The natives have fled

Dhubri, 5 10 —The pucca buildings have been destroyed, and telegraphic communication is stopped, the roads being fissured Some lives have been lost among the natives The country around is flooded, and the earth has subsided all along the banks of the Brahmaputra. Great damage has been done to crops

Jatrapur, 5 0 —The railway up to the Toesta is broken and telegraphic communication is stopped There are no mails either way The river banks are fissured down to Jumarbari Little damage otherwise

Heavy rain fell on the morning of the 13th and 14th Shocks continued for 24 hours The Europeans at each place compute the duration of the shocks at from two to three minutes Standing upright was impossible while the earthquake lasted

ANOTHER EUROPEAN DEATH

Shillong June 16.

Until now (4 30 P M, June 14) all communication with Gauhati has been impossible, owing to the bridges being

for years, was preceded by great heat, and accompanied by loud rumbling from the northern hills. No damage of importance has yet been communicated.

(The Englishman, Friday, June 18, 1897)
**APPALLING DESTRUCTION IN
 SHILLONG**

MR COTTON'S TELEGRAM.

TERRIBLE DEVASTATION

Simla, June 17

The following telegram has been received — From the Chief Commissioner of Assam, Shillong, to the Viceroy, Simla
 A terrible earthquake occurred in Shillong yesterday afternoon, June 12, at 5-10 p m All masonry buildings, including Government House, the Secretariat, the church, the jail, public offices and private houses have been levelled with the ground. The mortality is believed to be slight, but Mr McCabe was killed by a house falling on him. I deeply deplore his death, which is a great loss to the administration. There have been many narrow escapes, including my own and my wife's, but I know of no other European killed. Many employes in the Secretariat Press were killed by the building falling in on them. One or two deaths occurred in the military lines, and more in the bazar, but no details are available. The public and private losses are very heavy, and practically nothing has been saved anywhere. The official records and press lie under the ruins. Heavy and continuous rain has prevailed all night and all day, and there are severe seismic disturbances at frequent intervals. The position of the ladies and children, exposed to the elements, is very trying. Arrangements are being made to provide temporary shelter in very difficult circumstances. I do not know the extent of the earthquake, but judging from the severity of the shock here I fear it must be widespread.

Second Telegram, June 16 — No news has been received
 Sylhet or Onchar. The devastation on the Chorra-
 has been very great and the company gauge
 destroyed. I fear the loss of life must be consider-

able at the coal mines and lime quarries in Shillong. Mr. Rosenrode, Survey pensioner, was killed by falling off his horse. Gauhati and Goalpara have been wrecked. The loss of life has been very small. There is no news yet from Dhubri or Bengal. The earthquake was felt at Tezpur and Mangaldai, but was apparently less severe. No news has yet arrived from Upper Assam. River communications are open and steamers are running. Our road to Gauhati is being reopened. Seismic disturbances are still frequent and last night were severe. Details follow by letter.

June 16, Telegram No. 3:—In continuation of this morning's wire Mr. Strachey, agent of the railways, who went out to Cherrapunji and has just returned, gives the worst possible accounts of that place; whole villages having fallen down the side of the hill. Chutack was submerged, but many saved themselves on the limestone flats. News has just been received from the Executive Engineer, Sylhet, that the town has been levelled with the ground, and the subsidence of villages is reported. Great destruction of food supplies is inevitable, and I anticipate severe scarcity throughout Sylhet. I would ask, if possible, for the immediate deputation of an additional engineer and civil officers to assist the Deputy Commissioner at this great crisis. Whether other parts of Eastern Bengal are as bad I cannot say, but Sylhet urgently needs help, which, in my present condition, I cannot supply. Dibrugarh is said to be unharmed.

AGITATION ON THE JORHAT LAKE.

Jorhat, June 12.

A severe shock of earthquake was experienced at Jorhat this afternoon. The earth rocked so violently that there was considerable difficulty in walking, and many people were to be observed clinging to trees for support; while the waters of the Jorhat lake and the Chogdoi river were violently agitated. At one part of the bazar, the earth opened, and

water and sand were forced up in large quantities, while the walls of one brick shop were cracked and forced out to the perpendicular to such a degree that it is feared that the building will collapse altogether. The floor of this shop is concrete, and was originally level, but it now rests at a slope of about 40 degrees. At the railway station two brick pillars of the engine-house were thrown down and the iron roof collapsed on the top of an engine, while one of the walls has been so cracked and injured that the whole building will in all probability have to be dismantled at once. Such a severe earthquake has not been experienced in Jorhat for many years

DIVERSION OF A RIVER CHANNEL

Israrganj, Jano 16.

A terrible earthquake was felt here on Saturday last at 5 P. M.; it lasted nearly three minutes. The shock was simply dreadful. The town was greatly damaged, houses collapsed, the Muzaff's Court, Bar Library, school, thana, Registration Office, and Post Office are all damaged. The ground became wavy and fissures were made some ten feet wide and six deep. The local bazar was almost destroyed; roads have been shattered, the river changed its course. The effect has been disastrous throughout the district; almost all the pucca houses have been damaged and all the two-storied houses have been destroyed. The zemindars of Ramgopalpur, Gouripur, Kalipur, Golochpur, Bhabanipur, and Atharabari have literally become houseless. The fields have been covered by layers of sand, springing up from underneath at places six feet deep, burying the *aus* crop and seedlings of the *aman* crop. With the severe famine it is expected the price of common rice will now be six seers per rupee. The shocks are still being experienced. The people are panic-stricken. Only one death is reported from Ramgopalpur. All communication was stopped, but the telegraph was repaired yesterday.

NO MAILS FOR FOUR DAYS

JUBILEE CELEBRATIONS INTERRUPTED

Silchar, June 17.

Terrible accounts of the earthquake come from all places opened to telegraphic communication. The shocks still continue. Last night there were three shocks. The weather is extremely sultry. Our loss is nothing compared to other places, only the Bilpar Akhru building in Silchar came down, killing two persons. No other damage occurred to buildings excepting the collapse of the railway station building under construction. The loss of one life is reported from the interior of North Cachar. The Subdivisional Officer's building, the District Superintendent's bungalow, the Subdivisional Officer's residence and another bungalow have been seriously damaged. The embankment of the Hatticherra Tea Estate gave way, causing considerable loss to property. The Government road and villages have sunk in places, with extensive fissures ejecting black sand and water. Sylhet town is entirely ruined. Excepting three or four houses, no building, public or private, has been saved. The courts, offices, treasury, jail, hospital, and private residences have all collapsed. There has been heavy loss of life, but the exact number is not known. Yesterday medicines were sent from here to Shillong, which is in worse plight, if possible, being cut off from all communication. All buildings, including the Residency and all public offices, are gone. Arrangements have been made for carrying the mails by steamer. There have been no mails for four days. The Jubilee illuminations will be stopped.

Sibsagar, June 12.

The severest shock of earthquake I have ever experienced has just passed over the Sibsagar district. Considerable damage has been done here to pucca buildings.

villages with it, has fallen down, about half of the road from Shillong to Cherra has collapsed. The mortality here must have been considerable, but no details are to hand. No Europeans were killed.

The supply of food to the survivors is causing anxiety, as through communication with the Sylhet District is not open.

(The Englishman, Saturday, June 19, 1897)

LANDSLIPS NEAR SHILLONG.

Shillong, June 18

Slight shocks continue at frequent intervals. Rain has fallen heavily the greater part of the day. The discomforts are very great, food supplies are so far fairly adequate. There are alarming accounts of landslips in the district. One man has been extricated alive from the ruins. Five dead bodies have been found. Fuller details have been posted.

SLIGHT DAMAGE AT MANIPUR.

Manipur, June 18

The earthquake in Manipur on the 12th was apparently much slighter than elsewhere. One or two buildings were slightly damaged, but there was no loss of life.

MORE SHOCKS AT DIBRUGARH.

Dibrugarh, June 14

Three further slight shocks of earthquake were felt yesterday. The weather is unsettled and very wet. The heavy shock of Saturday was felt generally in the Upper Valley, and considerable damage was done to buildings, both in the Sib-sagar and Lakhimpur districts. The Dibrugarh Jubilee meeting has been called for the 15th to consider in what manner the Jubilee should be commemorated. A committee has been formed to collect subscriptions for a fitting memorial to that genial sportsman, Mr A W Madden Heath.

OVERFLOWING TANKS AT NOWGONG

Nowgong, Assam, June 14

A severe earthquake here has caused great destruction to masonry buildings. The Deputy Commissioner's residence, Court house and Circuit house were destroyed, and the Treasury and Post Office have been severely damaged. Many shops were destroyed and roads damaged. The earth vomited mud and water, and wells and tanks overflowed. There are great apertures everywhere. The time was 17.36. No loss of life is reported.

A SUSPENDED RAILWAY

Gaugul, June 15

This district suffered from severe earthquake on Saturday afternoon. Tea houses and bungalow walls were wrecked and in some cases have fallen. Na daks have been received for three days. Bridges on the railway near here are cracked and some pillars have fallen. The line subsided in parts, and the rails and sleepers are suspended in mid air. The Subordinate Engineer passed yesterday and two days after the damage. Where is the Engineer's Staff?

DELAYED TELEGRAMS

Katibar, June 12

A severe earthquake took place here at 4 P.M. The shock travelled from north to south, and lasted three minutes.

Siliguri, June 12

A severe shock of earthquake has just passed at 5 P.M., lasting three minutes.

Chirali, June 13

A very severe earthquake visited this district yesterday evening about half past five, lasting two and a quarter minutes. Much damage has been done to pucca buildings, tea factories and hospitals have been levelled, and the brick walls of bungalows and factories have fallen in, the mud walls of the coolie houses have collapsed. No loss of life has yet been reported. The first shock was followed by eight others. One was very severe, occurring at 3.10 A.M.

A HOMELESS RAJA

Murehidabad, June 18

An alarming earthquake took place at Nashipur last Saturday at 5 20. Almost all the houses have fallen down. No loss of life has occurred except at Thakurbati and Latmandir. All Rajbari buildings have been seriously damaged, and the Raja with his family is living in a straw hangalow. Other people are in huts and under trees. All Jubilee preparations at Rajbari are stopped.

Daryling, June 18

The Woodlands Hotel has suffered no permanent damage; nothing but minor injuries which will all be repaired in a few days.

(*The Englishman*, Monday, June 21, 1897)

HEAVY MORTALITY ON THE CHERRA HILLS

Simla, June 18

The following telegram has been received from Assam.—No 5 Colonel Maxwell sends the following reassuring telegram—All going well. Gowhatti Earthquake violent at Gowhatti, Barpetta, Goalpara, Nowgong, Mangaldai, less violent at Tezpur, Bihari, slight shock at Dibrugarh, Sibsagar. No news from Jorhat and Golaghat, but damage not great except to pucca houses. No damage done in Brahmaputra Valley; people ploughing away as if nothing had happened. No injury to steamers and boats on river. Prices of food supply rising but supply ample and largely indented for from Calcutta.

Communication from Shillong to Ganhati is rapidly opening out but communication with the Sylhet side is still closed. Probably the mortality on the Cherra Hills is from four to six thousand, but no details are available.

The effect of the earthquake is slight only at Silchar, Kohima, and Manipur.

MESSAGE OF SYMPATHY FROM THE QUEEN

Simla, June 19

The following message has been received by the Viceroy from the Secretary of State—*I am commanded by Her Ma*

Majesty the Queen Empress to say that she has heard with deep regret of the serious loss of life and suffering caused by the recent earthquakes. She desires that you will make known this expression of her sympathy and will keep her informed as to any further consequences which may come to your knowledge, though she trusts that the worst is already known.

SUBSIDENCE OF A VILLAGE

Charali, Jano 13

Seven more earthquake shocks have occurred in the last twenty four hours including two severe ones at 12 30 and 1 30 yesterday afternoon. One child was killed at Paphoi factory by falling walls. One mile on the trunk road band at Boreli Ghat between this and Tezpur, has crumbled away. A village near these has subsided and been inundated. Telegraphic communication was interrupted yesterday as the poles at Ganhati were damaged.

Charali, Jano 14

A very severe earthquake visited this district yesterday evening at about 5 30, lasting two and a quarter minutes. Much damage has been done to pucca buildings on tea factories. Hospitals are levelled, the brick walls of the hungalows and factories have fallen in, and mud walls of the coolie houses have collapsed. No loss of life is yet reported. The first shock was followed by eight others. A severe one occurred at 1 30 A M.

Sibsagar, Jano 12

An earthquake was felt here to day at 5 17 P M, and lasted five minutes. There was vibration and also an undulating movement from east to west. A mimic surf passes over the rice fields. Buildings and trees moved ominously and there was a slight upheaval on the lake. Pedestrian, reeled comically from side to side of the road. Slight damage has been done to masonry. This is the severest earthquake within my recollection. Seismic disturbance is frequent in Assam, and when the soil is water logged the effect is more felt.

South Sylhet, June 20

Repeated shocks occurred yesterday, and at 11 P M there was a very sharp one. The sky continues to present a very peculiar appearance. There is a prevalent opinion that all is not yet over now.

A CONTINUOUS TREMOR

South Sylhet, June 19

Two more shocks have occurred in the past twenty four hours, one at six in the evening and one at twelve. They were very feeble, but there is a continuous tremor in the ground, from which it is feared that the worst is not over.

Mohima, June 12

An extraordinarily severe earthquake of four minutes' duration occurred here. Much damage has been done to buildings. The direction was south to north.

Nowgong, Assam, June 12

At 6 P M a serious earthquake, lasting five minutes with five lesser shocks afterwards, was felt here. It caused considerable damage to pucca buildings in the district.

Kakias, June 21

The terrific earthquake on the 12th wrought great damage here. Four sections of the Rajbari were ruined. The Raja miraculously escaped. The Knmar's new house is badly cracked in several places, and every pucca building is cracked and shaken. No lives were lost. The old river bed soil has subsided four to six feet through the Kakias grounds, destroying a portion of the temple. The water and sand seethed up all round, damaging the crops. From Saturday to Wednesday's Calcutta mails arrived yesterday.

Chalea, June 13

A terrific earthquake occurred here at 5.3 P M on Saturday. Numerous factories and bungalows are wrecked. Several shocks have been felt since, severest at 12 P M, 8 A M and 12.50 P M to day.

(*The Englishman Wednesday, June 23 1897*)

NARROW ESCAPE OF A VILLAGE

LOSS OF 700 LIVES IN CHERRA AND SYLHET

Simla, June 23

The following is a telegram from the Chief Commissioner of Assam to the Viceroy —I am glad to say that later information shows a much less mortality in the Cherra Hills than was originally stated. It appears that almost the whole village of Shella, with 3,658 inhabitants, has fallen down into the river below, which is blocked, but that the subsidence was so gradual that most of the inhabitants escaped. The mortality from this village is said not to exceed 200. All the other cliff villages are small, and details are still wanting, but the total mortality in them is probably not more than 400. Communications with the plains is now re-opened. I have also received reassuring news from Sylhet, where the distress and damage are not so great as was supposed. The estimated loss of life in the district is only three hundred and the reported subsidence of villages is not confirmed. The Cherrapunji telegraph route was re-opened last night.

(*The Englishman Thursday June 24 1897*)

ANOTHER EARTHQUAKE AT DARJILING

Darjiling, June 23

There was another earthquake here at 7.30 last evening. Happily it has done no damage further than just widening a few cracks. These continuous shocks are naturally alarming, for there is no knowing how and when they are going to end. Those who have experience of earthquakes say that this succession of slight shocks is our safeguard, or otherwise there would probably have been another severe shaking. The idea, at any rate, is consoling.

Akyab June 22.

Two shocks of earthquake were felt here on Saturday and Sunday last 12th and 13th instant, the former being very severe and of long duration. Little or no damage, however, seems to have been done. Weather very wet.

DUARS TRAFFIC ARRANGEMENTS.

June 22.

At a representative meeting of Duars planters held at Jalpaignri, arrangements were put in progress for shipping Duars teas by river and getting up coolie food, as great scarcity is only too evident, owing to the uncertainty and slow progress made in repairing the Northern Bengal State Railway.

FAINT SHOCK IN PURI.

June 23.

Cuttack and Puri felt the shock of the 12th faintly. No damage was done at all.

Kajaldharn, June 13.

A severe earthquake occurred here at 4-30 P. M., lasting one minute and 30 seconds. Farther particulars will follow as to the damage done.

South Sylhet, June 23.

A recurrence of the oscillations to which I have referred before took place yesterday afternoon, and again at 8 P.M., there was a smart shock, another at 11, and a very strong one at two in the morning. The feeling one experienced was as if the ground was constantly throbbing, generally culminating in very distinct shocks. The weather is dull, rainy and cloudy.

Tremors still continue, there being one at 10 this morning and another at four this afternoon, the latter very distinct. Damage continues to be done at Gopalganj. A ferry boat containing 99 people is reported as having been upset by the bore in the river and all perished. Thirteen bodies have been exhumed from the ruins of Ali Omged Khan's house, and there are still some left. Bungalows, tea and leaf houses are reported damaged on all sides, some much more severely than others, the upheaval having travelled in waves as it were, and

those nearest the centres having suffered most. All along the banks of the rivers there has been a very serious subsidence and great loss of property.

TEA MANUFACTURE INTERFERED WITH.

South Sylhet, June 14.

There have been several more slight shocks of earthquake and at one P. M. three distinctly sharp ones. The fissures have opened out much wider, in some places being two to three feet and in many places the native villages have subsided considerably, and inside the houses water is springing up on every side. Manufacture in some factories will be seriously interfered with. The curious thing is that the tremor was quite unaccompanied by the usual symptoms, there being an absence of the usual rumblings, and the weather was not sultry for the time of the year. In fact, all the time it has been going on there has been a continual drizzle, and at intervals heavy squalls, indicating the hursting of the monsoons. The Assam-Bengal Railway has been badly damaged, and no mails have arrived for four days. One ballast train is lying wrecked near Telegaon station, half on the line, and half off. The embankments of the line in many places have subsided, and only the rails and sleepers are left suspended in air.

TWENTY POST OFFICES RUINED.

Simla, June 24.

The three-mile gap on the Eastern Bengal line caused by the earthquake is now repaired and the line is re opened. Reports from Assam are very bad, and there is no doubt that the damage will cost Government many lakhs of rupees. Twenty post offices are believed to be ruined, and many of the tunnels on the hill section of the Assam-Bengal Railway are believed to be damaged.

CORRESPONDENCE.

WRECK OF ST. MARY'S HOME.

TO THE EDITOR OF THE "ENGLISHMAN."

SIR,—One of the buildings that has suffered most is St. Mary's Home of Charity in Marquis Street, a most deserving institution, and I hope the damage done will be made prominent, to catch the sympathy of the charitable, also the heroism of Miss Comley and some other inmates who had several times to enter the quaking buildings rescuing the children and bed-ridden persons. A few seconds later the whole of this particular portion collapsed. The loss to the institution will be very severe, of course, principally in the building; but every article of furniture and the little belongings of the inmates of this wing have been completely destroyed.

I suppose there is not another house in Calcutta from where helpless persons and little children had to be actually rescued from the awaying building, which by the mercy of Providence just held together long enough to get the last one out.

G. F.

Calcutta, June 12.

SIR,—As a resident of thirty years' standing, I can say that to-day's earthquake is the worst that has occurred during that period. I have been round the town, and it will take days to estimate the damage that has been done. The earthquake of July, 1885, was a bad one, but to-day's was very much worse. My own place in the old part of the town is rather badly damaged, and all the rooms on the top flat have part of the roof gone, so I think it is just as well that the monsoon will be late!

OLD DITCHER.

TERROR AT BANKIPUR.

TO THE EDITOR OF THE "ENGLISHMAN."

SIR,—A very unusually earthquake was felt here this afternoon. The shock was perceptibly felt at 16-37 (railway time) and passed off at 16-42. The station buildings were noticed to shake most alarmingly, the lamp post swayed to and fro and the corrugated iron roofing rattled as if stormed by myriads of hailstones. While the current lasted, the feeling that possessed me and all was that of sea sickness, Natives and Europeans alike were running about the platform in abject terror not knowing at what moment the buildings would collapse. But the excitement was over almost as suddenly as it began.

We have had good rain in these parts and the atmosphere is delightfully cool.

WILLIAM H. HUNTER.

Bankipur, June 12.

TO THE EDITOR OF THE "ENGLISHMAN."

SIR,—Deplorable as have been the effects of Saturday's earthquake, it is to be sincerely hoped that the authorities will not add to the destruction of the many buildings now in a state of partial collapse, by firing off the intended sixty guns to commemorate the Queen's Jubilee, as such a procedure, added to the action of the monsoon, now already set in, would certainly have the effect of demolishing most of the structures now standing on the merest sufferance.

At this critical moment I feel sure nobody would take it amiss to let the memorable day pass off without the needless (and in this case certainly harmful) waste of powder, and to drink Her Gracious Majesty's health in the absence of the otherwise indispensable booming of guns.

CIVIS.

Calcutta, June 14.

TO THE EDITOR OF THE "ENGLISHMAN."

SIR,—I trust you will call attention to the fearful state of distress in which some thousands of the middle class people

of this city are planged In to day's *Englishman* I see you have already glanced at the matter and suggested that the Jubilee Dinner Fund should be diverted to the relief of suffering But really the case is worse than this I and my family, like many hundreds of others, are forced to bivouack in an open courtyard in the rain or run the risk of being crushed to death in our sleep It is only a question of hours with this rain, and my house must come down, and I can find no house-room anywhere in the town Surely this is a case for public action

SHAKEN OUT

"DOING" THE RUINS

TO THE EDITOR OF THE "ENGLISHMAN"

SIR,—All who have been "doing" the ruins of Calcutta must have been struck with the danger of the enormously heavy pillared balustrades which surmount the cornice of so many buildings, they are supposed to be ornamental, and the form a protection to those who go on the flat roofs But they are regular booby traps of the most deadly character If anyone doubts let him look at the blocks of stone weighing hundreds of tons that have fallen from the roof of the Town Hall And not only here but at Moore and Co's, Dr. Felstein's, and Mr Ezra's the experience has been the same The heavy balustrade or coping has been the first thing to give way, and it has come down like a thunderbolt on projecting verandah and porticos below with a crushing force that nothing could resist Is it not a mistake to set up all that monstrous pile of masonry again on the Town Hall? It seems like tempting Providence

Ballyganj, June 14

RATEPAYER

AN APPEAL FOR FUNDS

TO THE EDITOR OF THE "ENGLISHMAN"

SIR,—Will you permit me through your columns to appeal to the public of Calcutta for help on behalf of St Mary's

Home of Charity. Few places have suffered more severely from the earthquake—the third floor room of the building is a complete ruin and that entire portion will have to be rebuilt. At the time of the shock, there were fifteen children besides adults, on the third floor, and they were barely out of the rooms, before the entire side fell. The damages are roughly estimated at Rs. 5,000, and the Committee of the Home most earnestly beg the public to kindly help them to raise this large sum. The repairs had been, comparatively speaking, just finished, and the expenses entailed on that account have been very heavy, and have much crippled the Funds. Any contributions will be thankfully received by Dr Y. M. Comley, Honorary Treasurer, "St Mary's Home," and Miss Comley, Officiating Honorary Secretary.

ALICE COMLEY,

Officiating Honorary Secretary

PITY THE POOR CLERKS

TO THE EDITOR OF THE "ENGLISHMAN"

Sir,—May I ask the mercantile community to pay 000 months extra salary to all their poor clerks and menials in their offices to celebrate the Queen's sixtieth reign? If such kindness is shown to them they would ever pray for the welfare of their employers and remember with gratitude the sixtieth reign of the Empress, Victoria. The assistance is sadly wanted now, for the earthquake has stripped many of nearly all they possessed of house and of household goods.

POOR CLERK.

TO THE EDITOR OF THE "ENGLISHMAN"

Sir,—Will you kindly insert under your earthquake news the following item —

The Calcutta Boys' School sustained no damage from the shock, and all are well.

J GORDON KENNEDY.

72, Jaun Bazar Street, June 14

TO THE EDITOR OF THE " ENGLISHMAN "

SIR,—Sa'urday's earthquake ought to open the eyes of our municipality to the want of wisdom in enforcing the present building regulations so strictly, especially the section enjoying the setting apart of four feet in the sides of proposed buildings. As a safeguard buildings should be attached to each other as closely as possible consistent with the allowance, for free ventilation and light. The earthquake did most damage to those buildings which stand aloof from their neighbour new as well as old, while to the surprise of all the tottering houses that are in close touch with each other remain standing as they were. Would that the Lieutenant Governor had been here to hear personally on the spot of the extent of the damage done by the earthquake, so that he could judge how much the Building Act stands in need of revision.

VERITAS

TO THE EDITOR OF THE " ENGLISHMAN "

SIR,—The damage to house property in Calcutta caused by the earthquake as stated in your issue of to day is truly appalling. The Municipal Corporation should also enquire what damage the sewered drainage has suffered in the metropolis, as the rains are almost upon us, and no time should be lost to repair the same to prevent the outbreak of virulent epidemics.

M. B

Calcutta, June 14

CALLING ON THE TUTELARY DEITY.

TO THE EDITOR OF THE " ENGLISHMAN "

SIR,—I have made a few notes which I place at your disposal, simply to invite discussion and elicit exact information on the subject.

It was about two or three minutes after 5 P M, as the clock struck in my sitting room, that the visitation began. The moment I perceived it was an earthquake, I rushed out of my room in the *dalan* loudly crying out too, or vociferous;

ly praying to God—the God of Gods, *Poromassur*, to save us from instantaneous death, before the rest of the family gathered round me and the ladies began to strike the *kanson* or blow the *kaunch* before the tutelary deity on the third storey. I forgot to look at the clock or to note the duration. The direction of the vibration, as far as my experience goes, was from east and west. Father Lafont says that the vibrations were north to south as well as east to west, i. e., in all directions. The clock or chronometer on the bracket of my room with the pendulum oscillating north and south, and a carriage clock on a what-not placed in a similar position did not stop.

With regard to the building the small portico in front of our tutelary god Sro Dharj's room has been severely damaged, though the next room a few feet lower in the premises did not suffer any damage. My theory is that when the masonry runs in a continued line, solid and compact, the damage is the least, but where the building stands out alone it suffers great injury.

On my way to my garden yesterday I noticed several dilapidated houses, the ruins lying between Chitpar Road, Bealon Street, Shambazar, Tolla Park parah, and Siati. These houses appeared to be as I think liable to damage from their structure.

G D BYSACK

3, Bysack's Lane, June 14

TO THE EDITOR OF THE "ENGLISHMAN"

Sir,—Some days ago I read in the paper that on the morning of the Queen's Jubilee all the forts in India are going to fire a royal salute of sixty guns. Without intending to be the least disrespectful to Her Most Gracious Majesty, may I suggest that after the dire calamity that befell Calcutta on Saturday last, which left four fifths of the houses in a most dangerous condition, it would be far more prudent if no guns were fired, and they will be taken for the deed, as the effect on the crumbling buildings may be too dreadful for contemplation.

PRUDENCE.

NOTHING KNOWN OF DARJILING MAILS

TO THE EDITOR OF THE "ENGLISHMAN."

SIR,—The annexed is worth noticing in the *Englishman*. Fancy the Post Office with no information as to the Darjiling mails. One would think we lived in an age when telegraphs are unknown. At such a time they should rather publish information voluntarily. The mails could have been in by Monihari Ghât ere this!

ANXIOUS.

To Post Master, Calcutta.—SIR,—Will you kindly say by a note at foot when the letters posted at Darjiling on Friday last may be expected to arrive at Calcutta. Also whether letters posted at Calcutta on Saturday last and Sunday have reached Darjiling and by what route, and oblige.

Reply—The information required is not available. No news has been received regarding the Darjiling mails.

SHOCK AT SIMLA 'VERY SLIGHT.'

TO THE EDITOR OF THE "ENGLISHMAN"

SIR,—The public of Calcutta must be grateful to you for the two suggestions made by you, viz, that the proposed salute of 60 guns should not be fired on Saturday, and that Government should offer their empty offices to the houseless hundreds of Calcutta.

But your suggestions, not coming from an official source, are necessarily unpractical. It must be remembered that the Government is at Simla, and that its range of vision is limited by the surrounding hills. Furthermore, the shock at Simla was very slight. It follows therefore that Government can only be guided by what it feels and sees. It feels little and sees less. It did not and would not see the famine last year. Why, therefore, should we expect it to see the effect of the earthquake now?

The programme of the Jubilee celebration cannot be interfered with by such a trifle as an earthquake. A few houses knocked down by the salute will make very little difference, possibly only a few lakhs in the losses already suffered. Is it, therefore, reasonable to demand that the Government should

from its snug retreat, where its eyes and ears are closed, concern itself over such trifles and cause itself inconvenience by stopping such a necessary ceremony as a salute? You are asking too much, Sir.

Again, would it be reasonable to suppose that Government could possibly come down to the level of common mortals by opening its doors to the suffering multitudes? This would be merely human Government is not human Besides you have to consider the immense amount of inconvenience to the officials left in charge of the various offices. The ground floor of Government House would accommodate some two hundred people, but what a sacrifice it would be to turn the sacred edifice to such an unholy purpose. It is equally audacious to suggest that the Secretariat buildings should be turned into a barrack for a few weeks. No, we must have our guns, and the poor must sleep on the maidan.

MOUNTAIN DEW.

from the owner's point of view, as being the quickest way of getting the largest number of houses made apparently habitable at a time when rents are likely to rise to almost anything. On the other hand, it seems almost criminal to permit such repairs to be carried out, until some competent authority has inspected the premises, pronounced them safe, and issued a certificate to that effect. Surely this is the duty of the Municipality, and the Police should see that no repairs are carried out until such certificate is granted, except such as are necessary to keep out the rain.

In this connection, perhaps, the firing of the salute of sixty guns would prove more of a blessing than otherwise, only it would be advisable to warn the inhabitants to stand clear of the buildings for the time being, and a volley of the whole battery might follow, to make sure that nothing the least shaky remained.

OBSERVER.

Calcutta, June 16

MORE POSTAL COMPLAINTS.

TO THE EDITOR OF THE "ENGLISHMAN"

SIR,—Enquiries at the General Post Office as to when the Daryling mails of Saturday last and following days are likely to be delivered in Calcutta elicit the reply that the Presidency Post Master "has no information whatever upon the subject." Perhaps you or some of your readers may be able to tell me who is the correct person to apply to for information of this kind. It did not occur to me to apply to the Commissioner of Police or the Lord Bishop of the Diocese. I naturally supposed that the Presidency Post Master was the man whom the public have a right to expect to be able to supply particulars of this kind, but apparently I was wrong.

Is it not a disgraceful state of affairs that, owing to a few miles of railway being damaged between this city and Daryling, the mails are being delayed in this monstrous manner? If every mile of the rails for the whole journey had been

torn up, the mails should have been in before this. We know, there is no interruption between Scaldah and Sara or between Dargah and Siliguri, and of the intervening distance it is a liberal estimate to suppose that not more than fifty miles are out of order, and yet day after day, we receive no mails and the authorities have no information upon the subject. I venture to say that in no other civilized country under the sun would there be displayed such total indifference or incompetence to cope with a temporary difficulty such as this

DISGUSTED

Calcutta, June 16

SURVEYING THE DAMAGED HOUSES

TO THE EDITOR OF THE " ENGLISHMAN "

SIR,—Will you kindly insert the enclosed copy of a letter I have addressed to the Chairman to the Corporation with a view to inducing other engineers to give an hour or two of their time in the morning as Honorary Surveyors of houses injured by the earthquake

J H APJOHN

Port Commissioners' House, June 17.

To W R Bright, Esq, I C S —Dear Sir,—A correspondent in to day's *Englishman* calls attention to a serious public danger, viz, the prompt plastering up to the cracks in houses injured by the earthquake which will prevent their real condition being ascertained.

Since the catastrophe I have examined a number of injured houses, and the opinion I have formed is that, if what I see stated in the Press is correct, a large number of houses are being condemned as unsafe which are really capable of being promptly put into repair at a moderate expenditure of money and time so as to be quite safe for occupation. I have little doubt but that interested parties have a good deal to say to this wholesale casting up of houses

On the other hand, many houses of the poorer sort are really unsafe, which it is the interest of landlords to patch up

with the least possible delay, and in my opinion the utmost power of the Corporation should be put into force to thwart this action, and as far as I can understand the powers of the Corporation are ample to prevent such being done

I quite understand that it is a "very large order" to survey all the houses in Calcutta that are in a doubtful condition, indeed, I am very doubtful whether it is physically possible to do so, the number of men at present in Calcutta who can, under the most liberal interpretation, be called experts being very limited, and in the case of the majority of them their official duties will preclude them from rendering assistance. Survey by others than qualified Engineers or architects is useless. The houses that look very bad to one who is not an expert are often not really in a dangerous condition, while, on the other hand, comparatively few and moderate cracks may be in such positions as to indicate danger.

I am one on whose time the effects of the earthquake will not cause an encroachment, as the Port Trust property has practically suffered no injury. I therefore tender my services to assist the Corporation in the present crisis, and am ready to devote a couple of hours on most mornings to the survey of injured houses.

In order that my time should be utilized to the best advantage I should be supplied with a list of the houses assigned to me for survey. With a view to inducing others to come forward, I am sending a copy of this letter to the Press.

Yours truly, (Sd) J. H. APJOHN

STIPULATION FOR TIME TO DRESS

TO THE EDITOR OF THE "ENGLISHMAN."

SIR,—I trust the authorities have taken your warning to heart. I am certain that the firing of a salute of sixty guns from the ramparts of Fort William on Jahlee Day is a serious danger to the whole city with its tottering buildings. If the authorities blindly persist in firing these sixty guns as a proof of their loyalty, that is no reason why they should do so at the risk of innocent lives. We ought to be

told the exact hour so that we may all leave our houses during the firing. The picture conjured up is decidedly comical. The heroes in the Fort blazing away, to show their devotion to Her Majesty, rather enjoying the sight of falling buildings, so like the real thing, you know, and outside on the Maidan, the shivering legos, trembling at the roar of every gun and fearful of leaving no home to return to when the Jubilee fun is over. If the General Commanding the district pook-pooks the idea of danger, lest him take a seat in the upper flat of Moor's bungalow when the salute is being fired. General Yeatman-Biggs is a brave man, but I think he'd "rather not." Any way, if we are all to turn out a second time, lost our houses should come about now or, it is to be hoped we shall at last have time given us to dress decently.

TANDEM.

Calcutta, June 17.

HINTS TO THE BUILDING COMMISSION.

TO THE EDITOR OF THE "ENGLISHMAN"

SIR,—The Government of Bengal was asking through the Chamber of Commerce, the other day, for suggestions in connection with the enquiry set on foot by the Calcutta Building Commission. The first question of the Commission is whether one has any knowledge of "the mode in which houses are being built in Calcutta." Since Saturday's occurrence, most of us could answer that question in the affirmative. But two points occur to me that I think worthy of the attention of the Commission.

In almost every instance of collapse, the origin of the mischief may be traced to the heavy balustrades on the roof coping with which most of our Calcutta houses are "finished off." These balustrades are of enormous weight. You rightly say, Sir, that the part of the Town Hall that has come down would weigh thousands of tons. Not only are these too heavy balustrades a danger in themselves, but when they topple over they drag the front of a house down and carry porticoes and

verandahs before them. Has the Commission given its attention to these halustrodes ?

Another point is the immunity of buildings that are joined together as compared with those which are "self contained". The Commission, it seems to me, is inclined to make a fetish of ventilation. It has ventilation on the brain. Ventilation is all very well, but when we come to consider the strength of buildings and their power of withstanding earthquake shocks there is something else to be considered. Say what we like, the manner in which the long lines of rickety piles in Chitpur Road have escaped has to be explained. The native reason, that the houses are contiguous, may not be the right one, but it seems to me there is something to be said for it.

RAJ MISTRI.

Calcutta, Juno 17

TO THE EDITOR OF THE "ENGLISHMAN"

SIR,—Many thanks for the insertion of my letter about the earthquake. What I am anxious to know is the exact duration of the shock. I find nowhere an allusion to the exact time that the shock lasted. My idea is that it was not more than two or three minutes. If it had been five minutes, the whole town would have been a wreck.

In 1885 I recollect that the shock was smarter, some violent jerks, but of much less duration not more than a few seconds. About 55 years ago, when I was a school boy, my first experience of an earthquake was something very frightful. It was on the night of the Jagadhatri Pujā that the visitation occurred. The shock was so violent as to throw down the images of Jagadhatri in several houses. All the people rushed out of their houses to save their lives.

I remember that I with others ran out into the streets and stood at the Jagannath Ghât in front of the Mint, by the west of which the river Ganges then flowed as the Port Commission had not then come into existence and made our sacred river recede to its present narrow position. This much is certain that if those shocks on the two occasions alluded to by me had

lasted three or four minutes, the city would have been in ruins.

G. D. BYSACK.

3, Bysack's Lane, June 17.

EARTHQUAKE COMPARISONS.

TO THE EDITOR OF THE "ENGLISHMAN."

SIR,—Your interesting article on earthquake comparisons in Bengal is valuable, inasmuch as it focuses particulars regarding previous seismic disturbances. Might I in this connection record a few details regarding the shock experienced in Calcutta on the 31st December, 1881? It was felt at Calicut and at Port Blair; also at Katmandu, in Nepal, and by the ship *Maunt Stuart* in Lat. $3^{\circ} 51'$. The area covered by it extended, therefore, over seventeen meridians of longitude and more than twenty-three parallels of latitude. To put it roughly in miles, the earthquake of December, 1881, passed through 1,600 miles from north to south, and 1,300 from east to west. I collected materials for it at the time, and the masters of the ships *Glen Caladh*, *Lord Lytton*, and *Mount Stuart*, kindly furnished me with extracts from their log books, while from the local papers I got particulars of the shocks as it was experienced on board the *Commonwealth*, a vessel which at the time was in the neighbourhood of Car Nicobar. That quake was felt at Akyab, Cheduba (where it was immediately succeeded by an eruption of earth oil and burning gas) Chunar, Gaya, Hazaribagh, Ontack, False Point, Gopalpur, Cacanada, Vizagapatam, Madras, Pandicherry, Negapatam, Trevandrum, Calicut, Utacamund, Coonoor, Ceylon, Calcutta, and Nepal—briefly throughout Ceylon and the Madras and Bengal presidencies. The shock turned the top of a chimney at Chatbam Island half round. The Unabrian earthquakes mentioned by Lyell produced a similar effect on twoobelisks in Stefano del Baseo. At the time the earthquake (of December, 1881) occurred a tremendous eruption of the Mayon Volcano (Manilla) was in progress.

Like yourself I was unable to understand what the Allahabad paper meant when it suggested that Calcutta had been practically "immune" against earthquakes. We in Bengal are connected by the centres at Ramru, Cheduba, and Barren Island, and by the extinct volcanoes of Narcondams (seventy five miles N N E of Barren Island), and of Pappa (about thirty miles E S E of Pagan, on the Irraddy) with the grandest focus of volcanic activity on the earth. Lyell has a map of active volcanoes of the Indian archipelago and the adjoining part of the Pacific Ocean. Cheduba and Ramru, on the Aracan coast, are his starting points. But we may extend its volcanic area further north, the hot springs of Chittagong and Monghyr are phenomena associated with the dying out of volcanic forces in the areas where they are situated. Along the Aracan coast there are numerous mud volcanoes, another of the recognized indices of waning activity, Chittagong has repeatedly been visited by earthquakes, notably in 1762 and 1833. The next point in Lyell's map is Barren Islands, in the Andaman Group. The line of volcanic action thence trends away to the S E, passes through Sumatra, to which it gives at least four volcanoes, thence on through Java (with a whole range of them, in fine form as witness Krakatva¹) and the Moluccas. The belt of volcanic action then turns on itself at right angles, and running north, passes away through the Philippines, to Formosa, Japan, and the Aleutian Islands. Judd says there are ten active volcanoes in the Kuriles, twenty-five in Japan, (including Fussyama, the volcano with whose graceful outlines Japanese art has made us all so familiar), and in the islands lying south of it, and not less than fifty in the islands lying to the S. E. of the Asiatic Continent.

Those who regard the far off volcanoes in America, along with Hecla, Etna, Stromboli, and Vesuvius as the only remaining indications of volcanic activity on this planet, would do well to study materials available much nearer to us in Calcutta. Calcutta stands on alluvial deposits which separate the present land surface on which we live and move, and, have

our being, from the ancient sea shore which is now buried at a depth of only about 480 feet. In those deposits are the remains of at least two forest covered areas the wood in which has been identified as that of the Sundri tree from which the present Sunderhaus take their name. We, therefore, stand on an area of subsidence. There is a native story that the word Dacca is derived from *dhanka*, covered up, and if this be true it may well be that a town which existed at some time in the past in Eastern Bengal, on or near the site of the modern Dacca, was submerged by a convulsion of Nature, which may have been partially, if not solely, seismic in character. From the native point of view it was covered over—*dhanka*.

Ramru, Cheduba and Warren Island are within a radius of eight hundred miles from Government House. The seat of the earthquake which terrified us all on Saturday appears to be away to the N. E. or E. of Calcutta, and if I might venture to suggest it, I would recommend the collection of correct data as to the time, duration, direction, and effects of the earthquake of the 12th instant. Useful service may thus be rendered to a branch of science which is still in its infancy.

W. J. SIMMONS

Calcutta, June 18

TO THE EDITOR OF THE "ENGLISHMAN"

SIR,—Will you permit me to write and endorse the remarks made over the signature "Disgusted" in your issue of yesterday. Disgraceful is not too strong a word to apply to departments that fail to restore communication over a break of not more than fifty miles within five days. Could not the mails have been pushed on over the breaks by runners? In other parts of the world the mails are carried through fire, snow, or anything else. The anxiety of parents as to their children in Darjiling has been sickening, and the Postal and Telegraph Departments, with all their extensive staff, have been helpless to allay our anxiety. It is truly most disgusting

A PARENT.

A CONTRARY VIEW OF THE DISASTER

TO THE EDITOR OF THE " ENGLISHMAN "

SIR,—It will possibly interest the readers of the overdrawn and highly-coloured accounts of the recent earthquake at Calcutta, to know the result of some inspection work by a professional engineer with whom I had the pleasure of a conversation yesterday —

Two ty eight houses examined and reported on average damage about two per cent of value, none in dangerous condition

These were not selected specimens but taken *seriatim*. I think therefore that this gives a fairly accurate rate of loss on the houses sufficiently injured to call for professional inspection, and when about 2 per cent *ad valorem* is spent on them, they will be quite as good as ever they were

In the other houses (which form the great majority) too slightly injured to call for professional aid—only wanting a little plastering or a few terraco railings, etc, the loss is much lower, and very small indeed

So much for the buildings With regard to the loss of life I believe it is about three in a population of nearly one million

Fissures or openings *nil*, subsidences *nil*

When I think of the earthquake at Kashmir, where the death rate went well into four figures, and where we got so used to the hourly and half hourly shocks and rumblings like artillery engagements that we quite missed them when they stopped after several weeks, I cannot help thinking that the Calcutta earthquake has been overdone

Where, by the way, are the houseless Europeans and Eurasians who are supposed to be prowling about the Maidan and clinging to the Monument for shelter? No one appears to have seen any

SAFE AS HOUSES

TO THE EDITOR OF THE " ENGLISHMAN "

SIR,—How is it that our paternal Government has no seis-

mographic observatories in various parts of India? Seismic warnings would be better (and might be rendered more accurate?) than jute crop forecasts

SMASHED

STATE OF ST PAUL'S CATHEDRAL

TO THE EDITOR OF THE "ENGLISHMAN"

SIR,—I trust you will permit my drawing the attention of the public to a notice signed by me in your advertisement column of to-morrow's issue

The Cathedral vestry met this morning and consulted with a representative of Messrs Mackintosh, Burn and Co. In consequence of the dangerous condition of a portion of the spire it was decided at the meeting to advise me to issue the notice referred to. It was not considered dangerous to hold the 7 o'clock service on Sunday next, and also the daily services provided that the organ was not played and the congregation requested to sit at the east end of the Cathedral

Every effort, I may add, is being made to remove as quickly as possible the dangerous portion of the spire. As soon as the spire is pronounced to be in a safe condition we hope to hold our thanksgiving service

ARTHUR G LUCKMAN, Cathedral Chaplain

ON THE ASSAM RAILWAY

BANKS SUNK AND RAILS IN FESTOONS

PART OF THE LINE CLOSED TILL NEXT YEAR

TO THE EDITOR OF THE "ENGLISHMAN"

SIR—You will doubtless be flooded with letters on the subject of the recent terrible earthquake but it appears to me that some account of the destruction wrought on this railway will be of interest to would be passengers and merchants who employ the line for despatch of goods. From the accounts I have read in the *Englishman* I think I am not exceeding the mark when I say that nowhere does the shock appear to have been more severe than along this railway from near Shaista gram to Silchar

The line from Chittagong to Comilla, and from Laksm to Chaudpor was not injured in any way though the force of earthquake appears to have been great at all the places named. From Comilla to Akhaura the damage to the line is not sufficiently serious to in any way interfere with traffic, though several bridges, notably the Goomtee, have been forced an inch or two off the centre line. At Akhaura all the pucca staff quarters have either fallen down or are so badly cracked that the walls will have to be dismantled.

Traffic continues in the usual way as far north as this. From Akhaura to Itakhola, the line is much damaged. In some cases banks have been swallowed up, but the line has not been distorted, and the permanent-way hangs in festoons over the gaps. Several bridges have been seriously damaged, and some destroyed. This portion, however, has already been made passable for a ballast train.

The condition of the next portion of the line, namely, from Itakhola to Daragaon, simply beggars description. The line may be regarded as totally wrecked, though occasionally there are stretches here and there sometimes of a mile or so which stand unharmed. Generally speaking, however, the track has either disappeared or is rent by huge fissures, in some cases the bank has been thrust several feet off the centre line, carrying bridges with it, needless to say, wrecking them completely. The permanent-way is broken in some places, and in others bent in every possible shape. This is especially the case near Shaistaganj which appears to have received the very worst shock.

The bridge over Khowai river (near Shaistaganj) will have to be partially rebuilt, the north abutment has sunk several feet bodily, and the pier next to it has toppled over the forty-foot girder hanging from the permanent way, which itself forms a graceful festoon over the water of the river. The bank immediately behind the north abutment has disappeared. At Daragaon station half of the yard has disappeared, and the tracks have been forced apart from each other to nearly double the regulation distance.

Beyond this I have not personally examined, but I am given to understand that the damage, while serious, is not so overwhelming from there, mile 166 to Kalaura, mile 204 (mileage from Chittagong) From Kalaura to Latu (mile 229) I am informed on reliable authority that the state of the line is worse than at Shuistaganj, that the banks are all destroyed permanent-way thrown in all directions, and the bridges all wrecked. From Latu to Badarpur the damage is not very serious. On the Silchar Branch (from Badarpur to Silchar) which it was hoped would, in the course of a few months, be opened to traffic, practically all the large bridges have either fallen or will have to be dismantled, and this opening is, therefore, indefinitely delayed. I may add that the phenomenon of sand and water fountains up to a height of six feet was observed in several places. I have seen some of the sand so exuded, and found it supersaturated with water and of the nature of a quicksand.

In conclusion, I regret to add that, owing to the country being practically under water, the absence of labour and to the fact that several lakhs of bricks will have to be burned next working season, there is little likelihood of reopening the line to traffic north of Akhaura till well into next year.

Every pucca railway building between Akhaura and Badarpur is destroyed.

Please make any use you like of this letter, publishing it whole, or in part, or a précis of it if you think fit.

E. A. S. BELL,

Assistant Agent and Chief Engineer, Assam-Bengal Railway
Chittagong, June 17.

EARTHQUAKE CALCULATIONS

TO THE EDITOR OF THE "ENGLISHMAN"

SIR,—I am not an earthquake expert, and, in fact, know nothing of the subject, but I accidentally had the opportunity of obtaining certain figures in connection with the movement of the earth in the great quake of Saturday, June,

12th, and believing that they might be interesting to scientists, I give them for what they are worth.

At the time of the earthquake I was living in a three-storyed house in Theatre Row, and was making use of a room as a study on the top floor. The room contained the usual writing table upon which was a square glass inkpot, in which was a considerable amount of ink. When matters had quieted down after the seismic disturbance I went up to the room to see the damage, and in glancing over the writing table, my eye fell on the inkpot, and I noticed that the ink had been shaken so as to reach the top on one side the west slightly inclined to south, while on the other side, the wet mark was only about half way up to the top. It at once occurred to me that with this information it might be possible to arrive at some scientific results, and ascertain the angle of the roll, and in this view I tested the ink to see if anything had fallen into the pot, but found it quite clear. I then took the following measurements with a compass and rule —

Height of inkpot	..	..	2 25 inches
Length and Breadth of inkpot	..	..	2 625 "
Height of ink receptacle	..	..	1 1375 "
Diameter of ink receptacle	..	..	1 125 "
Level of ink from top	.	..	.25 "
Height of inkpot from level of earth	.	.	= 75 feet
Height of roof from earth	..	..	= 50 "

Then by filling the inkpot so as to make the ink follow the course marked as wet the following measurements were obtained —

Roll to West (by South)

Highest level of ink—Flush with top

Lowest level of ink from top	.	.	= 50 inch
Highest corner of bottom of inkpot from level of table	.	..	1 125 inches.

Roll to East (by north)

Highest level of ink from top	.	.	= 125 inch
Lowest level of ink from top	.	.	= 315 "
Highest corner of bottom of inkpot from level of table	.	..	= 75 "

With this data the mathematical calculations give the following results :—

1. Angle of roll of wall to west (by south) .. = $23^{\circ}57'44''$
2. Roll to west, distance of inkpot (38 feet
from ground) from perpendicular .. = 15 78 feet
3. Angle of roll of wall to east (by north) ... = $9^{\circ}27'44''$
4. Roll to east, distance of inkpot (38 feet
from ground) from perpendicular ... = 6 27 feet
5. Aggregating roll from east to west of inkpot
(38 feet from ground) ... = 22 05 feet
6. Mean angle in the two rolls ... = $16^{\circ}42'$
7. Mean of distance from perpendicular ... = 11 02 feet
8. Roll to west, distance of roof (50 feet
from ground) from perpendicular ... = 20 76 feet
9. Roll to east, distance of roof (50 feet
from ground) from perpendicular ... = 8 25 feet
10. Mean of two ... = 14 5 feet
11. Aggregate of roll of roof from east to west = 20 01 feet

At first sight these figures appear almost incredible, but they are probably approximately accurate. It must be remembered that the figures given are maximum figures and possibly represent only a single roll, and it must also be borne in mind that the earth moved with the house, and that the spectator on the ground also moved with the earth. The actual roll would, therefore, appear to be far less than is really was. Then, again, the movements were, of course, exceedingly rapid, and in a well built house, especially if "iron-tied" the chances of falling to pieces or remaining whole with a steady swing of the earth and foundations would probably be in favour of the house remaining almost untouched even at a greater angle than 23° . Of the scientific conditions of the atmosphere with a change in the level of the earth I know nothing, and therefore offer no suggestions.

There is one circumstance I should, however, point out. The swing from side to side in the earthquake of June 12th lasted about three minutes, in continuation of the two minutes of "shake." Level water, when swinging from side to side, obviously rises to a higher point on each side by the action of the swing than if it had been given a single swing only. On this analogy it is clearly possible that the ink in the inkpot may have reached a higher point on both sides in consequence

of the swinging than it would had done have the house only had a single swing, the maximum one, but against this there is the fact that the sides of the inkpot were slightly corroded with ink and it is probable that the ordinary normal effect, of the swing were to a great extent, if not entirely counteracted

The facts and figures are, however, given for what they are worth, and anyone is, of course, at liberty to make any allowances he pleases for the swing I may, perhaps, mention that the house in which the measurements were taken suffered severely The west wall has separated from the roof, and is nearly two inches out of the perpendicular, and all above the ground floor wall probably have to come down and be entirely rebuilt

As regards the length of time the earthquake lasted it appears that a trustworthy Bombay servant happened to have his watch out at the time the quake commenced and noted the time When the last swing was over he purposely again looked at his watch and found the period to have been almost exactly five minutes.

As regards the cause of the earthquake it occurred to me that Mr. Liotard, the well known astronomer, might have something to say on the subject I accordingly called on him, and I now give his opinion in as nearly as possible his own words

Astronomers have recognized that the planet Venus is the chief agent in the perturbation of the earth in her orbital motion, pulling the earth in fact bodily out of her orbit Whether this is done by magnetic or other action is of no consequence but the fact should be noted

"Further, the observations carried out at the Kew Observatory on the chemistry of light to ascertain variation have shown that the maximum amount of chemical action occurs at noon, that is, when the sun is in the upper meridional point

" If these are facts and if Venus has so much attractive power as to disturb the earth from her orbit, it seems quite reasonable to suppose that she would, if she remained long in our meridian, be certain to cause some disturbance in the earth, say, in polarity or magnetic or electrical conditions.

" As a matter of fact, Venus has for the last three months been affecting the eastern parts of India. We will first return to the moment of the last vernal equinox because it represents the time when the earth each year resumes its life action - when, in other words, magnetic or electrical action within the earth's crust comes into play giving vegetation a fresh start each year. By casting a diagram of the meridian of the eastern parts of India at the vernal equinox on 20th March last at 29 12, we find 32 degrees geocentric longitude in the meridian of Calcutta, with Venus within the meridional arc (in fact, a little east of the absolute meridional point of Calcutta).

" That in itself would be of small consequence, but unfortunately Venus did not, as she should have done, move away from that arc for the next three months! From 20th March to 7th April she advanced some $4^{\circ}10'$, then she became stationary and retrograded within the arc $16^{\circ}25'$ up to 21st May, then she advanced again, and was on the 12th of June (the date of the earthquake) within 2° of the very point she had occupied in our meridian at the vernal

" She marched thus forwards and backwards and forward again, during the three months in what was the vernal meridional arc of the eastern parts of India, and these parts in consequence became subject to her disturbing influence once every day during that time as the earth rotated on her axis. The result was inevitable sooner or later, and it became quite evident that complications might be expected as Venus in her forward movement returned on 12th June to within two degrees of the exact point she had occupied at the vernal, and the area of the earth's crust which had the arc

for its meridian at the vernal was considerably disturbed. A curious coincidence is found in the fact that the march of Venus during those three months backwards and forwards covered an arc of 16° and that the area of the earthquake also extended over 16° , and was limited to the very parts (eastern) of India which had Venus in the meridian at the vernal "

Now there are some who think that Mr Liotard is occasionally troubled with seismic disturbances in his brain, and others who consider him to be an infallible prophet, but we must remember that he is a proponent of a science about which the majority of us know nothing, a science still in its infancy, but regarding which every one recognizes that there is something in it, and there are probably few who deny that some connection exists between the weather of the earth and the planets. It is a little rough on India that that wicked jade Venus should go out of her usual course in order to have a flirtation with the earth; but if Mr. Liotard's statements are facts and there is every reason to believe that they are, it stands to reason that the erratic course of the Queen of Beauty, and the dragging the earth out of her orbit must necessarily have caused some disturbance in the air. Those disturbances, as usual, were presumably electrical, and the earth would necessarily be the sufferer in some way, Mr. Liotard's arguments are, to say the least of it, extremely plausible, and, it seems to me, not very far from the mark.

I may, perhaps, mention that Mr. Liotard informs me that he was so impressed with the idea that a frightful convulsion was to be expected from the erratic course of Venus, and thinking that the house he lived in was not sufficiently strong to stand it, he rented a flat in a new well built house, and had intended to move into it on Monday, June 14. He fixed this date as he calculated the earthquake would take place on the 15th, the date on which Venus would occupy the exact point that she had been in on the 20th of March, i. e., at the vernal. The earthquake, however, anticipated

him, and came off when Venus was still 20 from the dangerous point, and he was caught in his old house which was wrecked, but he was able to move into his new one at once. On the 15th of June, the date in which Venus occupied the point of danger, a small cyclone appears to have taken place in the Bay.

I next asked Mr. Liotard about the future, and if any further earthquakes were to be expected. His reply was cautious, as he explained that the conditions were becoming exceedingly complicated. It appears that on June 30 Venus will again be within the meridian of the earth, and very nearly the spot on which she was on June 12, but by that time two planets, Jupiter and Mars will, or should have entered the arc; both these planets are positive, while Venus is negative, and it seems to be a question whether their influence will counteract the evil designs of Venus. It seems probable that they will, and that Venus will confine her flirting attentions to the two gentlemen named, in which case it is probable that there may be a considerable break in the rains in July.

One word more. We know that a large number of houses are badly injured, and that builders are busy carrying out repairs. It is quite possible that many of those injured are practically safe, or can be made so with comparatively small repairs, but it is also possible and probable that many which are in reality quite unsafe will be patched up by squirting portland cement, or country plaster into the gaping cracks, and covering the whole with a coat of plaster and whitewash, and when this is done the house will be declared to be fit for habitation. Would it not be possible for the local Government to quickly pass a short Act making it obligatory for every house in Calcutta and the suburbs to be inspected by a qualified Government inspector before the outside plaster and whitewash are put on?

And yet another word. If anyone wishes to reply to this letter, I trust that he or she will not expect a further reply from me as I am leaving India in a few days. If anyone

does reply I suppose it will be one of the tender sex in defence of that wicked flirt Venus ' If this proves to be the case, I will give in at once, and in anticipation will say that Venus had nothing to do with the earthquake

FRED. ATKINSON.

Calcutta, June 19.

"QUAKED" INTO THE STREETS

TO THE EDITOR OF THE "ENGLISHMAN"

SIR,—I think my experience is as well worth telling as that of many to whom the earthquake, in retrospect, is nothing more than an exciting experience. I was at work when the shock came, and it was late before I got home to find my family—a wife and six young children—sitting outside in the compound, only partially dressed. I will not trouble you with their experiences, they were rather too exciting. But the fact was that the house was just hanging together, and to return to it seemed impossible. I came to think differently after a few days. Several hours that night were spent in driving about town in a germ search of a house. I searched everywhere, but none could I find at a possible rent. While out I came across at every turn, families whose cry was "our house is gone and none to be had anywhere." Well, about ten o'clock that night a friend was good enough to place at my disposal a corner of his house. This at least was shelter for my wife and two infants, and the other children were distributed with other friends. As for myself I had to parade the streets of Calcutta till three A.M., when from sheer exhaustion I crept back to my house, and at the risk of my neck got out a lounge chair on which I passed the rest of the night in the open air. This performance I repeated for three successive nights, going to work during the day as if nothing happened. I dare say my employer thought I had escaped all damage. I was busy, and a good deal concerned about some cracks in my house. Meanwhile my house got some patching at the expense of the landlord. I brought back my family, and

at the present moment we are forced to eat, drink and sleep in our small sitting room, our bed and dining room being quite unfit for use. Wretched as our present position is, it is far better than that of many families who to my personal knowledge are still living in a divided state, unable to return to their houses or to get a suitable house for themselves. I heard with delight of the offer of the Custom House sheds, and like others, I went to see them, but was disappointed to find that as they stand, they are quite unsuited for the reception of women and children. Do not let it be supposed that I had any extravagant ideas. But some arrangements are necessary for common decency, to say nothing of comfort, and to make a corner of a shed habitable for a family would entail an outlay of at least Rs 50—on a place, too, that we would have to shift from in a month or so. I fear, therefore, that as far as families are concerned the offer of the sheds is a failure. A lot of men might settle down there, or shako down at little expense but for families it is hopeless.

SOOTERKIN'S LANE

HOMELESS, NOT HOUSELESS

TO THE EDITOR OF THE "ENGLISHMAN"

SIR,—The scarcity of house accommodation in Calcutta continues to prove a matter of very great anxiety to a large section of the middle class of Europeans and Eurasians, who, like myself, have suffered and are still suffering, through the shock of Saturday, the 12th instant. As you know many of the rich people of the town have had to abandon their shattered houses. But the poorer people whose houses are in the same plight, cannot afford to move. Anyone who drove into the central section of the town after the shock would have seen, on all sides, groups of women and children sitting outside their houses, while the men on foot or in rickshaws were hunting all over Calcutta for places of shelter. Many of them moved into empty houses, many went to their friends, while the others were forced to return to their ruin.

walls, &c , of the Church and Convent are badly cracked, and as the repairs to the same will involve an outlay of at least Rs 10,000, I beg you will kindly permit this appeal a small space, feeling confident that the public contribute their mite towards meeting the expenses I need hardly add the blessing that will attend you and the public in helping me in so noble a cause Unfortunately there are no funds at my disposal to undertake the repairs, and my only alternative is to make this appeal through you with a view to its restoration I will be grateful for any subscriptions that may be sent to me direct They will be duly acknowledged

P M DESILVA,
Prior of Bandal

Hughli, June 18

DARJILING COMPLETELY CUT OFF.

TO THE EDITOR OF THE "ENGLISHMAN"

Sir,—I have just heard from my wife from Darjiling, dated Thursday night 'Still no news of you I am fearfully anxious' And yet I telegraphed to her on Saturday, just after the earthquake, and again on Tuesday or Wednesday, and I have written every day without fail! Certainly the telegrams were deferred, but still one would have thought they might have reached their destination within a day or two

We here in Dinajpur have fared as badly as our neighbours My house is partly in ruins and I have had to take to the Circuit House The Collector is boldly hanging on in his house, two or three rooms of which are said to be habitable

But his kitchen came down with a run burying all his cooking pots, so that only one could be found, and he, poor man, was wandering about the station seeking what he could devour The District Superintendent's house looks as if it had been shelled by the Turks He is in tents The

Doctor the same The Judge's entcherry has been very badly damaged, and is not really safe to work in

The natives have suffered terribly Nearly every house is damaged or destroyed The Maharaja's Rajbari is a heap of ruins But in spite of this and I think it says a great deal for their pluck and loyalty they have pulled themselves together and have all united to celebrate the Diamond Jubilee of Her Most Gracious Majesty Yesterday the poor (over 4 000 in number, it is said) were fed, and the Maharaja was going among them and attending to their wants, just as if nothing whatever had happened to him This is true grit

It is a most unfortunate thing that this terrible earthquake should have come to mar the Jubilee festivities but if its effect be to draw us all natives and Europeans, more closely together, it will have done some good at least

R R POPE

Diaajpar, N B S Ry, June 20

NEAR BARRACKPUR

TO THE EDITOR OF THE "ENGLISHMAN"

Sir —When the earthquake began I was sitting on an iron bench on a ghat at my garden in Barrackpur Trunk Road The bench seemed to be moved by some body I heard a rumbling of the ground, and thought that the gun powder wagon was passing along the Barrackpur Trunk Road My house swayed about seven inches The floor of the garī verandah collapsed and some of the walls cracked, but no one was injured The mango trees rustled together violently The direction of the vibration was from south west to north east There was a pond before me and water began to roll to the brim The current flowed in the above direction, many fish leaped up There are several damaged houses between Barrackpur Trunk Road, Cornwallis Street, Pikepara Baranagore, Bonhugh and Mirzapur Street

ANOTHER ACCOUNT FROM SHILLONG

[FROM A CORRESPONDENT]

Shillong, June 16

The earthquake lasted about thirty seconds. Every pucca house in the place was levelled to the ground, all collapsing like packs of cards, and their corrugated roofs were lying flat upon the ground.

Fortunately nearly everyone was out of doors, or hardly a soul would have been left to tell the tale. Some of the escapes were simply miraculous.

I and my wife had driven out to Upper Shillong and heard a roar like artillery coming from the south. Instantly we were thrown down and saw two hungalows near us collapsed. After ascertaining that no one could be alive in the ruins, we started to drive back but found the road blocked with trees. By removing them we managed to proceed driving for about two miles, and then found the road almost carried away.

We got out and walked on. Nearing Shillong we expected to find the bridge carried away but fortunately it was standing though shortly afterwards it was carried away by the floods.

We here met my daughter on her bicycle, who had come to meet us, and told us the others of our family were safe.

Everyone now assembled on the cricket ground and took refuge from the rain in the wooden cricket shed that had remained standing.

We passed the night in a terrible state, every moment rushing out as each fresh shock occurred expecting the shed to come down. Two or three tents were put up by the Ghurkas above Moore, and some of us took refuge in them until the morning. Some stores were produced from a ruined house and we lit a fire and cooked some food. The rain poured down all Sunday and the stream alongside was a raging torrent. When the earthquake occurred my little girl was on her pony and had nearly just crossed the hand at the end of the lake when the whole band disappeared and the

lake rushed down the hill as one mass. One man who was fishing reached the bank with the greatest difficulty. It was not until Monday morning that people began to move about and visit their homes to find nothing but ruins.

Some have procured tents and the Gurkhas have erected huts in some compounda, but we have all to sleep on the ground or on mattresses fished out from the ruins.

Constant shocks have been experienced ever since Saturday, but they are becoming less severe and at longer intervals.

The native bazar is in ruins and it is believed that there is only sufficient rice for a few days' supplies and tents are urgently required.

Dr Campbell has been untiring in his efforts and General Hammond and Mr Corkery have all worked hard. Colonel Maxwell was also conspicuous and Captain Chatterton has earned golden opinions by his efforts, and the Gurkhas behaved splendidly. As I wrote on Wednesday, the 16th, we shall have occasional shocks, but everyone is brightening up and things look more cheerful, especially as we have news that the telegraph line is restored to Gauhati.

We have still no news from Calcutta and until we know the extent of the disaster we shall be in great anxiety.—L. K.

EARTHQUAKES AND POST OFFICES

TO THE EDITOR OF THE "ENGLISHMAN."

Sir,—You already know that the town of Gauhati was destroyed on the 12th instant by a shock of earthquake. The inhabitants of the place have lost most of their property, and are, moreover, most anxious for news of their friends and property in other parts of the country.

The Assam mail which left Calcutta on the 12th instant has not, naturally enough owing to the break up of the Jattrapur line reached us, but why have the mails of the following days not reached us?

Had the mail of the 13th been sent via Goalundo, we should have received it on the 17th, but on that day no mails

arrived On the 18th also no mail come to hand, but on 19th the mail from England was delivered, but no mail from Calcutta

We live in hopes that one may come in to day, but our confidence in the Postal authorities at Calcutta has received almost as severe a shock as our poor town has from

EARTHQUAKE

Gauhati June 20.

TO THE EDITOR OF THE "ENGLISHMAN"

SIR,—Many side lights will appear with reference to the recent earthquake, lights which will throw a halo over some devoted heads

On Saturday evening last I was passing St Mary's House of Charity in Marquis Street, and seeing that a portion of the house had fallen, I walked in and after a few minutes saw Dr Comley, who had just come down from the upper storey. It appears that eighty poor people of all ages are provided for in the house, and the damage done is severe enough to require Rs 5,000 to effect the necessary repairs The inmates were all in the compound near the road, and through the praiseworthy exertions of Miss Alice Comley, those who had been in the rooms which utterly collapsed, were saved just in time

The house is very much damaged, and the large number of inmates are squeezed into three rooms on the ground floor One big dinner on Jubilee Day is very good in its way, but cases like the above appeal much more strongly to the good will of the public I beg to enclose a cheque for Rs 100, and I only appeal to the public to send in what they can Suppose 93 charitable people send in Rs 50 each, or double that number Rs 25 each The poor will bless them

T K

ARE BENGAL EARTHQUAKE INCREASING IN SEVERITY

TO THE EDITOR OF THE "ENGLISHMAN"

SIR—It has been suggested that the shocks we have had here in Calcutta in recent times have shown a steady tendency

to increase in point of severity, each being rather worse than the last. One cannot help thinking it is so, but it is just one of those matters in which it is hazardous to be positive or to trust solely to memory. At any rate, it justifies one in saying that the Government Meteorological Department should be far better equipped than it is in regard to seismometer, etc. If there is any part of India in which these convulsions may be expected it is Bengal and Assam. And if there is any reason to suppose that our earthquake shocks have shown a tendency to increase in severity, the sooner the Meteorological Department is put on a sounder footing the better.

I read somewhere long ago that in the more volcanic parts of Japan, an ordinary horseshoe magnet is used to give earthquake warning. They believe that just before "a real bad" quake the magnet loses its lifting power, and that the armature (or keeper) specially if slightly weighted, then drops off. Knowing this, upon reaching home on the 12th I examined both my horseshoe magnets,—one a small one, and the other six or seven inches long. They had not lost their lifting power, at any rate, their armatures had not dropped off, and as they hung free, in a locked almirah, there was no doubt about it. I must say I was a little disappointed for I expected to find the armatures had dropped off.

At the same time my magnets were not weighted, and I do not know how the Japanese hang theirs, but this, again, is a point to which attention might be given. Did anyone observe if the keeper of a suspended horseshoe magnet dropped off before or during the last earthquake? Personally, I should be more disposed "to go" by a magnet than by Venus and her sister planets, though if Mr. Lotard's sole reason for seeking another house was his forecast, based on planetary aspects, then one can only say there may be something in meteorological astrology.

OBSERVER.

TIMING A MINOR SHOCK.

TO THE EDITOR OF THE " ENGLISHMAN "

SIR,—With reference to your paragraph in your issue of to day a paper that a slight shock of earthquake took place yesterday evening, we can corroborate the fact, for one of our regulators in position of north and south ceased working at 24 minutes past seven, showing the direction of the earthquake to be east and west

COOK AND KELVEY

Calcutta, June 23

BANARES EXEMPT FROM EARTHQUAKES

TO THE EDITOR OF THE " ENGLISHMAN "

SIR,—Your article of the 18th instant is very suggestive, and I hope the attention of scientists will be directed to the cause or causes of this phenomenon. I should mention here that these several earthquakes have occurred within the past half century. I believe an account of all the earthquakes that have occurred during the time of the English Government may be found in a paper written by the late lamented Mr T. Oldham Director of the Geological Survey of India. I recollect three or four occurrences of the kind taking place between 1841 to 1835, but in no instance did the shock exceed a few seconds. They were sharper, and more violent, but of very short duration. The Barisal gann, about which much has been written in the Journals and Proceedings of the Asiatic Society, prove that there is some volcanic action going on below the land or the Bay. But with the exception of that periodically recurring phenomenon there is nothing to show that the Delta or the Continent of India is subject to earthquakes. You may be aware that the Hindus, especially the orthodox classes, have a notion that Benares, the City of Bissesswar, the God of Destruction, one of their Trinities, is never visited by an earthquake. The myth has been exploded by the recent disaster, but the fact remains that the city has never been damaged by earthquake shocks. It is said that

the Nogoraj which supports the earth on his heads never dares to move it from one of his heads to another for fear of Shiva, the presiding deity of the city Benares has been devastated from time to time, more by the hands of the Mlechhas than by the frocks of nature. From Momud Gozan down to the great Iconoclast Anrangzeb and Kalupahar, the town had been destroyed over and over again, but not a pinnacle or turret has ever been broken by earthquake. Such is the legend of Brindaban, Mathura and other holy places. The marvellous temple of Goumjee, all but wrecked by the Mohamedan marauders, was never damaged by earthquake. This shows that mother Bharatbarshi (India) has been outraged by the hand of man more than by the action of nature. Yet the importance of a scientific enquiry, such as you suggest, is surpassing.

G D BYSACK

3, Bysock's Lane, June 17

STORY OF DISASTER FROM SYLHET

TO THE EDITOR OF THE " ENGLISHMAN "

SIR,—The enclosure is an extract from a letter, dated 12th instant, from a tea garden manager living in Sylhet. I send it to you as an interesting illustration of the violence of the shocks experienced in some places during the recent earthquake, and I would commend the attention of the postal authorities to the date. I received the letter to day.

The confiding writer says — " I would write to — also but it is late, and I want this to go away by the early post "

X

" I think I have now got my nerves back to write a letter to you. You will have got my wires re the earthquake. For all the 17 years that I have been out here, I have never felt anything so awful. From a little Bee clock that I found among the debris, which had stopped at the time of the earthquake, the time was 4.40 P. M.

" The whole of our fine pucca bungalow is in ruins, not a wall standing. As you know there are iron columns throughout every 10 feet, so the roof did not come down. But the walls in falling down have broken every bit of our furniture, at least what can be seen of it, for most of it is buried under bricks. I happened to be having tea in the front verandah, and had to hold on to one of the iron columns until I saw that I must clear for my life. The bungalow swayed from four to five feet, and it appeared to me to sway from south to north. I jumped off the verandah and was immediately knocked down as far as the second terrace in front of the bungalow. It was quite impossible to keep one's feet. The whole of the bungalow hill was on the swing to such an extent that the actual ground split open. The pucca stables are also in ruin and likewise the pucca cook house. The horses, I think, are all right. They may be bruised, but from what I saw of them they were all right. The tea house is very nearly in the same state, but standing. Some of the walls are down and others in a very unsafe condition. The iron columns held it up. As luck would have it, work was finished early and the sorting women were just about to leave. They got out in time. The machinery has escaped uninjured, but I have to find out to-morrow if it will work, after I have cleared away the debris.

STOPPAGE OF COMMUNICATIONS

TO THE EDITOR OF THE " ENGLISHMAN "

SIR,—I am writing this in the hope it may reach you in the course of the year. It is now a full week since a copy of the *Englishman* has been seen up in this district, and needless to say we up in the mofussil are anxious for news of the outside world. Have the Post Office authorities all gone to Simla and given up work in the plains as a bad job? Surely by this time something could have been arranged, so that letters and papers could be delivered. There can be no doubt that the damage done by the earthquake has been most serious not only at headquarters, but up here, bungalows, tea houses,

withering houses, are down, but I will guarantee that the usual routine of work was running smoothly again within twenty four hours. Why? Because, a common or garden tea planter has learned to rely on himself it is not a case of *Hukum paya nai* or *Hukum honest kai nai kariga*

For the last three days I have sent a special messenger to the Post Office, and he has come back always with his answer, 'The dāk may be in to morrow or the next day' This is most satisfactory. Even the only telegraphic communication open is the Assam Bengal Railway line which is a private company and not Government. I suppose when the Bengali Babus in charge are able to sit down and smoke their hookas and chew pan again without fear, we shall have our letters and papers again

JOHN PREST

Hajjagoa Kajaldera P. O., June 19

A BABU'S REFLECTIONS

TO THE EDITOR OF THE "ENGLISHMAN"

SIR,—I give a short extract from an official report regarding the earthquake in Rangpur which may interest your readers. The extract has its ludicrous as well as its serious side. The Babu's closing reflections are evidently the results of the intense excitement of the moment

O. A. MARTIN

Darjiling, June 22

"Innumerable buildings, specially of more than one storey have been dismantled, with many human beings crushed underneath. The surface of the soil had many wide and deep cracks, through which liquid sand poured forth like so many springs of water. Many animals, including horses, were engulfed where these cracks opened wide suddenly beneath their feet while fastened in their stable. Similar and other horrible scenes quite stunned the people of the town in a minute or two, and I am at a loss, to understand why the Creator delights in destroying simultaneously, and in numbers His own creatures which when they were sent to the world were seen not to come together."

HOUSE ARCHITECTURE IN CALCUTTA

TO THE EDITOR OF THE " ENGLISHMAN "

SIR,—The recent earthquake placed us within a measurable distance of a great calamity, and had the shock lasted a few seconds longer, or had it occurred at night, the loss of life might have been disastrous. The earthquake of 1897 is the second within a decade, and it appears that all builders must now recognize that earthquakes are a possible factor in designing houses for Calcutta. Will you, therefore, permit me to tender some advice to house owners and others who are occupied just now in estimating the steps to be taken to repair damages, and the possible risks arising from cracks and other alarming results of the shock. The damages done will come under one or other of the following categories:—

1 The case of walls which are substantially out of plumb or which have bulged. Such walls are unsafe and must be dismantled and rebuilt, and in rebuilding much care must be taken to bond them well into cross walls, and at least 10 to 15 feet of the cross walls with which they are connected should be dismantled and rebuilt also.

2 Another very common case is where from bad building or bad materials or both, the front wall is torn away from the cross walls of the main building leaving dangerous looking cracks at the corners. Although the front wall may not be out of plumb in all such cases, I advise that it should be taken down, and in rebuilding, it should be well bonded into the cross walls.

3 The third class of cases is most common, namely, where cracks have occurred over doorways, and in most cases these cracks entail rebuilding the archways, and the wall over the arch ways up to floor or roof level. In rebuilding the arches they should be made semi-circular and not segmental, and a wood or iron lintel extending well into the masonry should be fixed above the doorway to carry the brickwork between the arch and the chowlat. Whenever such cracks have occurred the walls should be strengthened with through bolts of wrought iron or steel about two inches in diameter.

with substantial heads of cast iron at the roof, and floor levels extending to the outer walls of the building. The use of segmental arches over doorways should be prohibited.

4. The use of heavy cornices and balustrades should be discouraged, and in my opinion in all houses of more than one storey in Calcutta through ties should be introduced longitudinally and transversely at the roof and floor levels whether they have suffered from the past earthquake or not as a precautionary measure.

5. Light porches and hanging verandahs should invariably be strongly tied to the main building by iron ties.

6. When superficial repairs are being carried out, and cracks which affect the stability of the building are being simply plastered over, the case should be reported to me for such action as may be possible to the Corporation under the present Act.

It would be impossible with any hope of useful result to appoint an entirely untrained staff of overseers to inspect for any large number of houses damaged. All we can hope to do with the present staff is to deal with houses which are dangerous on thoroughfares, and for the rest we must trust to the public protecting themselves by making representations to the Corporation when such cases will be dealt with as far as possible and inquired into.

A. HUGHES,

Chief Engineer, Corporation.

Calcutta, June 27.

AN EARTHQUAKE REMINISCENCE.

TO THE EDITOR OF THE "Herald."

SIR,—The accompanying, taken from "Three Years of a Wanderer's Life," by J. F. Keene, which I was reading yesterday, may be of interest at the present moment. Keene gives a personal incident connected with Calcutta that occurred in 1885—"A most odd mischance happened to me in Calcutta on this visit. Crossing the Hooghly one day in a small dinghy, I passed close under the stern of a steamer

THE EARTHQUAKE OF 1737

TO THE EDITOR OF THE "ENGLISHMAN"

SIR,—When the P and O Company's S S *Oriental* from London dropped her anchor off Aden we were startled with what was then thought a rather sensational telegram announcing the destruction of innumerable houses and many church steeples in Calcutta, but passing through the unfortunate city a few days thereafter I saw sufficient to convince me that the wire had not exaggerated the situation. One of your contemporaries remarked gravely that Calcutta was the last place where one would expect to find seismic phenomena occurring. That Calcutta has suffered from severe earthquakes is well known to us who have to reside in Bengal, but it may nevertheless be of interest to the general reader to have a description of the appalling cyclone and earthquake which almost desolated Calcutta exactly one hundred and sixty years ago. The following extract is from a "Typographical and Historical Sketch of Calcutta," which originally appeared in the *Saturday Journal* —

"In 1737 occurred the terrible cyclone and earthquake which well nigh devastated Calcutta, and which is thus succinctly described in the *Gentleman's Magazine* of 1838-39. In the night between the 11th and 12th October, there happened a furious hurricane at the mouth of the Ganges, which reached sixty leagues up the river. There was at the same time a violent earthquake, which threw down a great many houses along the river side. In Calcutta alone, a port belonging to the English, two hundred houses were thrown down, and the high and magnificent steeple of the English Church sank into the ground without breaking. It is computed that twenty thousand ships, barks, sloops, boats, canoes, &c., have been cast away. Of nine English ships then in the Ganges, eight were lost and most of the crews drowned. Barks of sixty tons were blown two leagues up into the land over the tops of high trees. Of four Dutch ships in the river three were lost with their men and cargoes. Thirty thousand souls are said to have perished. The water rose forty feet higher than usual in the Ganges.

"The steeple referred to is that of the Old St John's Church of 1716, before mentioned, and which was never replaced "

Perhaps a few more particulars regarding this Church may not be out of place here, so I shall quote again from my *Sketch of Calcutta* page 27 —" The first Church of Calcutta was built in 1716, it is situated to the south of the Old Fort and west of Writers' Buildings. The Freemasons chiefly contributed funds towards its erection, and it was at their suggestion designated St John's Church. The Gospel Propagation Society presented a splendid silver mug and the Christian Knowledge Society also aided in the good work. It appears to have been a fine structure, and had a magnificent steeple. The first Chaplain of it was probably the Revd Samuel Brereton, who may be mentioned as the earliest Chaplain in Calcutta, as his name occurs in the records as far back as 1709. But, as a Chaplain was not always obtainable for the Church, on account of deaths, a sum of Rs 600 was allowed annually to a merchant—a Civilian of some years' standing—to perform Divine Service there on Sundays "

I may here add that, to that distinguished officer, Colonel R Baird Smith, of the Bengal Engineers, is due the credit of being the first to record and analyze the phenomena of Indian earthquakes, vide Jour As Soc, B XII 258, 1029, XIII, 964, XIV 604. The terrible earthquake which occurred in Chittagang on the 2nd April, 1762, recorded at some length by Sir Charles Lyell in his "Principles of Geology" was also felt at Calcutta.

Here, at Khulna, I am glad to be able to say that the earthquake does not appear to have done any appreciable damage to any of the Government buildings, etc. This house has escaped with only a few superficial cracks on the roof, and I hear that the "Filiott Clock" (which is placed on a tower over the Civil Courts' Buildings, and was presented by Mr J Rudd Rancey to commemorate the

have stood the shock of this last earthquake without a crack, but which nevertheless are simply so much money wasted. But if the position is the reverse, then the sooner the public learns the truth the better.

PUZZLED

Calcutta, June 29

SITE OF SHILLONG

TO THE EDITOR OF THE "ENGLISHMAN"

SIR,—Now that the earthquake has utterly destroyed Shillong, would it not be as well before money is expended on rebuilding, to consider the question as to the best site for the Chief Civil Station of the Chief Commissionership of Assam. Shillong is a most inaccessible place, and consequently very expensive for its residents. It is a long distance of any portion of the Assam Bengal Railway, and there is no chance of any other Railway coming to Shillong. Surely some good site might be chosen either on or near to the A and B Railway on the North Cachar hills. There are said to be places here that would be very suitable as to climate and with a small rainfall. The advantages to the province would be enormous, enabling the Chief Commissioner to get expeditiously from end to end of his province and facilitating administration in every way. At present the province is without a sanitarium that can be reached without a fatiguing or perhaps impossible journey to some Government by this course would be gainers by getting a new district opened out, and consequently the land revenue would be largely increased. The A B Railway would gain also by a large increase of traffic, as planters and others who now find it impossible to visit Shillong, owing to the long time consumed in travelling backwards and forwards, would then be able to enjoy a hill climate for a few days frequently.

A SPICER

Cachar, June 29

A MCCABE MEMORIAL

TO THE EDITOR OF THE " ENGLISHMAN "

Sir,—The many friends of Mr McCabe in Assam will, I am sure, as soon as Shillong is rebuilt, unite to put up some monument to his name. Those who knew him most intimately will also know the wide circle of acquaintances he had, and will not grudge that the first suggestion should come from a Bengal Civilian, for there were many men who knew and liked his kindly, genial, and generous character. It will perhaps be appropriate that our friends in Assam, and particularly in Shillong, should be reminded of the sympathy felt for them in many a station in Bengal, not merely in the wreck of their houses, but in the loss of one so deservedly admired. I shall be glad to send my subscription of Rs 16

W. H LEE

TELEGRAPHS IN ASSAM

TO THE EDITOR OF THE " ENGLISHMAN "

Sir,—As many of your correspondents complain the Telegraph Department seem to have completely lost their heads in the recent earthquake. Two days and four days afterwards, i.e., 14th and 16th, I had occasion to send telegrams to Dhubri: those were accepted without a murmur and were both delivered late on the night of the 25th. They referred to absconding coolies, and I now hear that had I written instead of telegraphing the men would have been caught. As it is, they have "made their lucky," and probably this estate will be minus some six hundred rupees. Had the Telegraph people had the courtesy to send out notices that telegrams could not be transmitted, or had even posted them or even refused them, this loss would not have accrued. As it was we were all under the impression that the wires had been opened up, and were disposed to give the Department great credit for their energy.

AGRICOLA.

Assam, July 2.

APPEARANCE OF THE MOON.

TO THE EDITOR OF THE "ENGLISHMAN."

SIR,—As all points in connection with the recent earthquake are interesting, may I ask your readers if any of them noticed a green appearance of the moon the day before or on the 12th June. An old servant told me just after the quake that the moon had been "green" the evening before. I attached no importance to the remark, but since on reading Kerheck's report on Krakatoa (1883) published by the Netherlands Government, I find that both sun and moon assumed tints of green and blue due to fine particles of dust, etc.

VERDANT.

Buxar, July 7.

EARTHQUAKE DATA AND THE BARISAL GUNS.

TO THE EDITOR OF THE "ENGLISHMAN."

SIR,—I would ask once more for the favour of your assistance, in the first place, to convey my thanks to the numerous respondents to my former appeal for the information regarding the earthquake of 12th June. These have been too numerous to acknowledge in detail. In the second place I have to appeal for assistance in procuring a record of the gradual dying out of the seismic activity of which the great earthquake was the principal manifestation.

It would have been unreasonable to ask for a careful record of shocks to be kept immediately after the earthquake when everyone was mainly occupied in arranging for the comfort and security of themselves and their families, but if any one has kept such a record, however imperfect, I would be grateful for a copy of it. I would also ask for the assistance of correspondents in Assam and those parts of Bengal where earthquakes are still being felt. I shall be pleased to furnish any one, who is prepared to assist, with postcards to be despatched once a week, with the particulars of all earthquakes felt during the week.

Many of my correspondents have remarked on the frequency of the sounds known as Barisal guns since the earth-

quake, even in places where they were not commonly heard before. I should be grateful for any information on this point. The cause of the "Barisal guns" is a vexed question, and though they have been supposed to be of seismic origin, no definite evidence of this has hitherto been recorded. The present is a unique opportunity for collecting such, and I would be glad to hear if any of your subscribers have noticed a connection between the guns and the recent earthquakes, or an unusual prevalence of those sounds since the 12th June.

B. D. OLDHAM,

Officiating Director, Geological Survey of India.

CAUSATION OF EARTHQUAKES.

TO THE EDITOR OF THE "ENGLISHMAN."

SIR,—I think it is generally believed that earthquakes and volcanoes are allied phenomena. The surface of the sun is in constant agitation, and every 11 or 12 years cyclonic waves convulse her photosphere causing matter at times to be ejected 350,000 miles into space. Similarly immense areas of Jupiter and Saturn the younger and more semi-fluid planets are frequently affected by prodigious throes from within and upheavals which bulge out many miles above the surface. And the huge red or ruddy prominences, permanently visible in Jupiter, may be glowing matter upheaved during the convulsions to shrink and form immense mountain chains. The main factor in forming the variations of the landscape and the undulations on the surfaces of the globes is shrinkage. It also appears to me that the metallic vapours that are forced up through the pores of the earth during its contractions which condense before they arrive from kerosene oil.

J. E. MONIER.

E. I. R. Chord Line, Madhapur.

THE OLD BANDEL CHURCH

TO THE EDITOR OF THE "ENGLISHMAN"

SIR,—I thank you very sincerely for the kindness you did me in publishing my appeal to the public for funds for the restoration of the Bandal Church, which suffered so badly during the late earthquake. I gratefully acknowledge the receipt of liberal subscriptions from even non-Catholics in response to my appeal to repair one of the oldest Christian edifices in India, and I am proud that no religious bigotry or sentiments have influenced any of the generous gentlemen on whom I have called for help. My duties at Bandal are pressing, and I am unable to spare much time to call upon all gentlemen, but if anyone is disposed to contribute to the repairs of the venerable pile and the holy shrine of which I have the high privilege of being in charge I shall be grateful if they will send me their contribution addressed either to the Prior of the Bandal Church, Hughli, or the Superior of the Portuguese Mission in Calcutta (Bow Bazar). All subscriptions are acknowledged in the Catholic weekly, the *Indo-European Correspondence*.

P. M. DA SILVA,
Prior, Bandal Church.

Bandal, Hughli, July 11

APPEARANCE OF THE MOON.

TO THE EDITOR OF THE "ENGLISHMAN"

SIR,—I can corroborate the statement of "Vordant" in your issue of the 9th instant regarding the green appearance of the moon. It was observed by me at about sundown on the 6th ultimo. The moon was screened by a thin misty cloud of a faint pinkish colour, and behind this it appeared of a greenish colour. The disaster occurred about the first quarter of the moon. The earthquake of the 12th ultimo was felt here at 4 37 P. M. The motion was distinctly undulatory, lasting about three minutes, having no pendulum clock to indicate the direction. I looked about me afterwards on sundry brackets to see if any small article had fallen, but each first

being the case, the seismic wave must have been slight. I remained in my room watching the undulatory motion of the mantelpiece and the stone shelves in a recess in the masonry. I was at the same time exchanging remarks with my daughters in the next room, who called out to me to know if I felt my bed shake. I cried to them to run out into the compound, but they replied that they were in *dishabille*.

JUMNA,

Allahabad, July 10

THE EARTHQUAKE IN THE KHASI AND JAINTIA HILLS

[FROM OUR OWN CORRESPONDENT]

Writing again from Sundye in the Jaintia Hills to a correspondent in Cachar, Mr Brownlow gives some further particulars of the damage caused by the earthquake in those parts as follows. "The losses about Cherapunji were exaggerated but have been heavy. Cherra itself is a perfect wreck." Dr G says "The whole Nongsowlia Hill will never be safe again it is gradually sliding down. The road skirting Cherra village is nearly all gone and parts of Nongrim are falling down every day, and many times a day with every shake and every shower we get. Sholla simply tumbled into the valley, as did Nongrim and most of Sebar. The village of Laitiam was buried with 85 souls. In the coal mines about 22 workers lie entombed. "I feel somewhat apprehensive about Chittagong. The centre of disturbance has changed, and appears to have moved on a parallel line further south and nearer that place. We just catch the edge of disturbance now, and hear the rumble distinctly going underneath and to the south. Sometimes, when prepared by rumble for a shock, we fail to feel it, or just feel a grind which scarcely amounts to movement."

"The water disappears off the Sylhet plains like magic after the great shock. L—and I made a careful scrutiny

of the plains about half an hour after it and failed to see any, except just one large puddle, although before the shock came there was a very fair show of water.

"Jeeban Rai (retired Extra Assistant Commissioner), was killed, we hear, at Shillong when his house fell.

"July 14 — We continue to get slight shocks of earthquake, mostly in the early morning. If anything they are slightly more powerful than they were for three weeks after the great shock."

A three-storeyed house, No. 8 Kyd Street, is in as bad a condition as any in Calcutta. Mr. Fred Drew, Mrs. Drew, and an infant daughter occupied the middle flat, Mr. Sexton the lower, and Mr. H. Kersting Green the upper flat. The building is riddled with cracks. Two gaping openings in the eastern portion run from the roof to the ground. The residents had to turn out, and were greatly indebted for the generous aid rendered by the residents of Nos. 11 and 11-1, Kyd Street, and by Superintendent Davis, of the Park Street Thana. The house was expected to fall at any moment. At the two houses named some of the furniture was taken in, and the Drew family and Mr. Green were put up for the night, while Mr. Davis offered a temporary residence and lent men to guard the place and help to secure carts and coolies.

SHILLONG REDIVIVUS.

[FROM OUR OWN CORRESPONDENT]

Shillong, July 31.

Letters come to us from all directions, saying, "Send us more news of Shillong." In one of my former letters I said that the tale of the disaster was told in a few words, but the hardships and difficulties would fill a volume. Troubles do not come singly, for now, I regret to say, that there is much sickness in our midst. Exposure, even so bravely borne, is not without its ill-effects. Whooping cough has broken out among

the children and is spreading fast from camp to camp. Some four or five ladies are laid low with typhoid fever, two of whom are Miss Hammond and Miss Spencer, daughter of Colonel Spencer, 17th B. I. There are also some isolated cases of influenza. These are the after effects of exposure and bad living and the drinking of impure water consequent on the destruction of all the houses and water works in Shillong. Doctors Campbell and Parry are kept busier than ever.

The weather is now more settled and fine, and most of us are enjoying camp and basha life, so far as the villagers and the Shillong servants will permit. Coolie labour is so highly paid that servants prefer it, and without warning desert us. The remedy seems a simple one, but probably not until those in places of authority offer annoyance will the evil be remedied. The workman's hammer is busily and somewhat noisily demonstrative on all sides, and the result is a number of tidy little bashas, and if these dwellings outwardly resemble farm sheds at home the inside of them is a pleasing contrast where feminine skill and ingenuity have been exercised with good effect. All praise is due to Mr. Watts, P. W. D., for his unfailing kindness in meeting the wants and wishes of the homeless. A basha church is in course of erection. It has been designed by Mr. Arnadell, and under his clever and personal direction is fast assuming shape. The Cricket Pavilion, which proved so serviceable in our hour of need, is still transformed bi-weekly into a church, and perhaps associations and circumstances lend additional interest to the services.

Frequent seismic shocks continue but are comparatively slight. One, however, at 11 P. M. last night, was sufficient to awake sleepers and another at 6 A. M. this morning served as a summons to *chota hazzr*. I hear that my little tale of the various ruins here has given satisfaction, so I continue what little there is to tell. "Furnori," recently occupied by Colonel Macgregor, was fortunately untenanted at the time of the earthquake, for like all houses on high ground it has suffered complete destruction, only a heap of stones contrast

painfully with the pretty compound around "Mansfield," also at this time untenanted, formerly the residence of Mr Faulkener, A B R, is also only a heap of stones over which the thatch roof in one broken mass remains. The cottage attached to "Mansfield," a more kutcha erection, has its ckra walls left standing the plaster completely gone, while the chimney in falling shattered the roof and floor, and the stone foundation is wrecked to its base Mr Strachey's house "Rosewood," has shared the common fate. The roof of the cottage alone remains intact, shielding the ruins over which it has collapsed from further damage. The compound, with its many tents, is like gipsy encampment, and for these tents the occupants of "Rosewood," were glad to relinquish the servants' houses in which for some weeks after the earthquake they were located.

The ruins of the once picturesque houses of Captain Look and Mr Petinger, situated on little hill tops, are very unsightly, no trace remains of their former usefulness. Great difficulty has been found in excavating the ruins, needless, therefore, to say that personal loss is very great. "La Olanmiere," the once beautiful residence of Mr Way, is a sad sight. The ascending roadway to it is badly fissured. As one approaches the train garden raises a hope that the house has escaped, but the shock is all the greater when the last bend is rounded to see only a disorderly mass of stones. The cottage and tennis ground share a similar fate. Fences are uprooted, and the compound is badly fissured.

Mrs Watts and the children were indoors at the time but rushed out at the first rumbling of the earthquake and escaped unhurt. The house formerly occupied by General Jennings and at present by Mr Heaven is another complete ruin, but the corrugated roof did good service in shielding the ruins and all they contained from being further damaged by rain. Mr Willson's houses are all completely ruined.

We hear of enterprising proprietors who are already prepared to rebuild and of one or more house holders, who are

willing at a valuation to take over the ruins and rebuild them themselves, as otherwise the land will lapse to Government. So we look forward to seeing Shillong, itself, again, and rejoice that all suggestions to "abolish Shillong" are disregarded.

An attempt is being made to revive recreations for which since the disaster, people have been disinclined. Polo now takes place twice weekly as formerly, and a paperchase weekly. A Gymkhana is contemplated, and cricket weekly holds sway again. A very good gama was played last Saturday, heavy weights against light weights. The latter batted first and made 97, of which Mr. Hodgkins compiled 47 in good style. The "Heavies" ran up 115 for six wickets before the call of time. Mr. Perkins, 42nd G. R. carried his bat for an excellent 71.

With very much regret I record a most unfortunate carriage accident which occurred on the 30th July. Mrs. Hammond, while driving with Mrs. McCabe in her Ralli cart, fell from it sustaining a fracture above the left ankle joint. It appears that the cab started slightly at the noise of a piece of corrugated iron placed on the bridge to the polo ground over which these ladies were crossing. Many friends were at hand to render assistance. Very much sympathy is felt for Mrs. Hammond. For some time past she has had the anxiety of nursing her niece, who is one of the victims to enteric fever, in addition she had scarcely recovered from the severe shock she suffered on the 12th of June, and in spite of which she has never ceased to do all in her power to cheer and encourage others. The doctors issue a good bulletin to-day. The patient is resting fairly well, and is bearing her injury bravely. We hope soon to see her about among us again.

The earthquake on the night of the 2nd instant was felt at Shillong at ten minutes past nine. It was the severest shock since that of the 12th of June was experienced, lasting 80 seconds. Three of the seismometer pillars were levelled.

No local damage was done. Telegraphic communication with Sylhet through Cherrapunji has been interrupted during the past two days.

Lieut. McNaughten, who has been in a critical state since he joined the 42nd Gurkhas in Shillong two months ago, died on the night of the 2nd instant. He was buried next evening with full military honours.